



An Examination of the Conditions of School Facilities Attended by 10th-Grade Students in 2002

E.D. TAB

U.S. Department of Education
Institute of Education Sciences
NCES 2006-302



This page is intentionally blank.



U.S. Department of Education
Institute of Education Sciences
NCES 2006-302

An Examination of the Conditions of School Facilities Attended by 10th-Grade Students in 2002

E.D. TAB

October 2005

Mike Planty
Research Triangle Institute

Jill F. DeVoe
Education Statistics Services Institute

Jeffrey A. Owings
Kathryn Chandler
Project Officers
National Center for Education Statistics

U.S. Department of Education
Margaret Spellings
Secretary

Institute of Education Sciences
Grover J. Whitehurst
Director

National Center for Education Statistics
Mark Schneider
Commissioner

The National Center for Education Statistics (NCES) is the primary federal entity for collecting, analyzing, and reporting data related to education in the United States and other nations. It fulfills a congressional mandate to collect, collate, analyze, and report full and complete statistics on the condition of education in the United States; conduct and publish reports and specialized analyses of the meaning and significance of such statistics; assist state and local education agencies in improving their statistical systems; and review and report on education activities in foreign countries.

NCES activities are designed to address high-priority education data needs; provide consistent, reliable, complete, and accurate indicators of education status and trends; and report timely, useful, and high-quality data to the U.S. Department of Education, the Congress, the states, other education policymakers, practitioners, data users, and the general public. Unless specifically noted, all information contained herein is in the public domain.

We strive to make our products available in a variety of formats and in language that is appropriate to a variety of audiences. You, as our customer, are the best judge of our success in communicating information effectively. If you have any comments or suggestions about this or any other NCES product or report, we would like to hear from you. Please direct your comments to:

National Center for Education Statistics
Institute of Education Sciences
U.S. Department of Education
1990 K Street NW
Washington, DC 20006-5651

October 2005

The NCES World Wide Web Home Page is <http://nces.ed.gov>.
The NCES World Wide Web Electronic Catalog is <http://nces.ed.gov/pubsearch>.

Suggested Citation

Planty, M., and DeVoe, J.F. (2005). *An Examination of the Conditions of School Facilities Attended by 10th-Grade Students in 2002* (NCES 2006–302). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

For ordering information on this report, write:

U.S. Department of Education
ED Pubs
P.O. Box 1398
Jessup, MD 20794-1398

Or call toll free 1-877-4ED-Pubs

Content Contact:

Kathryn Chandler
Project Officer
202-502-7486
Kathryn.Chandler@ed.gov

Acknowledgments

Many people contributed to the production of this report and the 2002 Education Longitudinal Study (ELS) Facilities data. From the National Center for Education Statistics (NCES), we would like to thank Project Officers Jeffrey Owings, Associate Commissioner, and Kathryn Chandler, Program Director, from the National Center for Education Statistics (NCES) for their support of this project.

We would like to thank Research Triangle Institute (RTI), and in particular, Steven Ingels and Ellen Stutts of RTI, who provided the technical appendix to the ELS: 2002 data, to which we made only minor revisions to suit this report. Gerard Rainville, formerly of the Education Statistics Services Institute (ESSI), performed many of the statistical tests in this report, and we are grateful for his contribution. We would also like to thank Deven Carlson and Margaret Noonan of ESSI for their revisions and editorial assistance.

We would like to acknowledge the comments and suggestions from internal and external reviewers. The work done by reviewers from NCES, including Marilyn Seastrom, Bill Fowler, and John Wirt, is greatly appreciated. Finally, thanks to Duc-Le To, from the Institute of Education Sciences, who gave helpful comments on this report.

This page is intentionally blank.

Table of Contents

Section	Page
Acknowledgments.....	iii
Table of Contents.....	v
List of Tables.....	vii
List of Standard Error Tables.....	viii
List of Figures.....	ix
Introduction.....	1
The Current Study.....	1
Topics and Concepts.....	2
Sample.....	4
School-level characteristics.....	4
Student-level characteristics.....	5
Selected Findings.....	6
School Estimates.....	6
Appearance (cleanliness and disrepair).....	6
Safety and security measures.....	7
Noise level.....	8
Neighborhood conditions.....	8
Student Estimates.....	9
Exposure to selected school building appearances.....	10
Exposure to selected school safety and security measures.....	10
References.....	12
Figures.....	13
Tables.....	17

Table of Contents (Continued)

Section	Page
Appendix A. Technical Notes and Glossary.....	31
A.1 Overview of the Technical Appendix.....	33
A.2 Overview of ELS:2002.....	33
A.2.1 Study Objectives.....	33
A.2.2 ELS:2002 Research and Policy Issues.....	34
A.3 Overview of ELS:2002 Facilities Checklist.....	36
A.4 Sample Design, Weighting, Response Rates, Standard Errors.....	37
A.4.1 Sampling.....	37
A.4.2 Weighting.....	38
A.4.3 Response Rates.....	38
A.4.4 Survey Standard Errors.....	40
A.5 Statistical Procedures.....	40
A.5.1 Student's <i>t</i> Statistic.....	40
A.6 Glossary—Definitions of Variables Used.....	41
A.7 Appendix A Reference.....	43
Appendix B. Standard Error Tables.....	45
Appendix C. Education Longitudinal Study: 2002 Facilities Checklist Questionnaire.....	61

List of Tables

Table		Page
1	Percent of 10 th -grade schools, by location within school and by specified physical or structural condition: 2002	17
2	Percent of 10 th -grade schools with specified physical or structural condition present, by selected school characteristics: 2002	18
3	Percent of 10 th -grade schools with a specified safety and security measures, by selected school characteristics: 2002	19
4	Percent of 10 th -grade schools with varying noise levels, by selected school characteristics: 2002.....	21
5	Percent of 10 th -grade schools with a specified condition in the surrounding neighborhood, by selected school characteristics: 2002	22
6	Percent of 10 th -grade students in schools with specified physical or structural condition present, by selected student characteristics: 2002	24
7	Percent of 10 th -grade students in schools with specified safety and security measures, by selected student characteristics: 2002	26
A-1	Unweighted school sampling, eligibility, and participation by sampling stratum: 2002.....	39
A-2	Summary of ELS:2002 base-year unit response rates: 2002	39
A-3	ELS:2002 variables: Weighted proportion missing and imputed.....	40

List of Standard Error Tables

Table		Page
S1	Standard errors for table 1: Percent of 10 th -grade schools, by location within school and by specified physical or structural condition: 2002	47
S2	Standard errors for table 2: Percent of 10 th -grade schools with specified physical or structural condition present, by selected school characteristics: 2002	48
S3	Standard errors for table 3: Percent of 10 th -grade schools with a specified safety and security measures, by selected school characteristics: 2002.....	49
S4	Standard errors for table 4: Percent of 10 th -grade schools with varying noise levels, by selected school characteristics: 2002	51
S5	Standard errors for table 5: Percent of 10 th -grade schools with a specified condition in the surrounding neighborhood, by selected school characteristics: 2002.....	52
S6	Standard errors for table 6: Percent of 10 th -grade students in schools with specified physical or structural condition present, by selected student characteristics: 2002.....	54
S7	Standard errors for table 7: Percent of 10 th -grade students in schools with specified safety and security measures, by selected student characteristics: 2002	56

List of Figures

Figure		Page
1	Percent of 10 th -grade schools with a specified physical or structural condition present, by urbanicity: 2002	13
2	Percent of 10 th -grade schools with specified safety and security measures, by school sector: 2002	14
3	Percent of 10 th -grade students in schools with a specified physical or structural condition present, by student composite achievement test scores: 2002	15
4	Percent of 10 th -grade students in schools with specified safety and security measures, by race/ethnicity: 2002	16

This page is intentionally blank.

Introduction

During the last decade, the U.S. Department of Education has released reports describing and evaluating the physical condition of schools (Lewis et al. 2000; U.S. General Accounting Office [GAO] 1995). According to a 1995 report from the General Accounting Office, this nation has invested hundreds of billions of dollars on school infrastructure so that children are properly educated and prepared for the future in school facilities that are well-maintained, clean, safe, and secure (U.S. GAO 1995).

Decent, safe, and secure facilities are essential to successful educational programs. Creating a safe school environment is necessary in order for teachers to teach effectively and for students to be receptive to learning. While typical thinking regarding “safe school” environments often involves a school that is free of weapons, illegal drugs, student intimidation, and theft, other factors regarding the physical condition and appearance of school facilities, such as noise levels and cleanliness are important to consider as well.

In 1995, the GAO concluded that about two-thirds of America’s schools reported that all buildings were in adequate condition, with most needing preventative or corrective repair (U.S. GAO 1995). The remaining one-third of schools, however, reported the need for extensive repair or replacement of buildings. Over half of America’s schools reported one major building feature in need of repair or replacement. In addition, about half reported at least one unsatisfactory environmental condition in their schools, such as poor ventilation or heating, or lighting problems, or poor physical security.

A 1999 survey of public schools conducted by the U.S. Department of Education showed that about one-quarter of schools reported that at least one on-site building was in less-than-adequate condition, one-half reported that at least one building feature was in less-than-adequate condition, and about 40 percent reported at least one unsatisfactory environmental condition such as lighting, heating, acoustics, or physical security (Lewis et al. 2000). Specifically, 20 percent of schools reported that the physical security of their school buildings was unsatisfactory in 1999.

Together, the GAO and Department of Education surveys documented the need to take a closer look at the conditions of our nation’s schools. Clearly, there are many schools that do not have adequate conditions for promoting the safety and security necessary for a positive educational experience.

The Current Study

The National Center for Education Statistics (NCES) Education Longitudinal Study of 2002 (ELS:2002) is a longitudinal study that follows the same individuals, a cohort of high school students, over time. The facilities instrument was administered as a part of the ELS:2002 and focused on the conditions of school facilities, including disrepair, cleanliness, safety, and security measures. The facilities instrument was administered in order to establish a baseline measurement of school conditions for students in the ELS:2002 sample. The intent was to use

this baseline in the examination of student academic success and other long-term outcomes. The instrument alone, however, provides a unique opportunity to examine the state of school facilities of 10th-graders in 2002. Unlike prior reports that focus on school facilities from an administrative or facility manager perspective, the ELS:2002 survey included a component that allowed for the independent observation of 10th-graders' school facilities on a given school day. In the first year of data collection, the 2002 base year, an interviewer from the larger ELS:2002 survey effort completed a facilities checklist that described the physical plant and circumstances of the sample of schools. In order to maximize comparability of observations across schools, survey interviewers were asked to complete the facilities checklist in the middle of the day (for example, after a morning session of the larger ELS:2002 survey administration or before an afternoon session of the larger ELS:2002 survey administration). Certain items on the facilities checklist required interviewers to go to empty classrooms, meaning that they had to check the classrooms before classes started, during class change times, or during lunch. Procedures were also outlined for inspecting restrooms (e.g., the interviewer was told to enter only the restroom appropriate for her or his gender). Specific instructions for the interviewer can be located in the data collection instrument (see appendix C) and are noted in the data tables of this E.D. TAB.

Readers should note that due to the fact that sampled schools are based on 10th-grade respondents selected as a part of the ELS:2002 sample, data presented here do not represent all schools nationally. Rather, they represent only 10th-grade schools. In general, 10th-grade schools are considered high schools, but the sample also contains schools with grade spans including PK-12 and 6-12, as well as others. In addition, the sample does not include Department of Defense schools outside of the United States, schools operated by the Bureau of Indian Affairs, and certain schools with special populations (e.g., special education schools for students with severe disabilities). In total, the sample represents approximately 25,000 schools in the 50 states and the District of Columbia and 3.4 million public and private 10th-grade students in the 2001-02 school year.

Topics and Concepts

The first issue under investigation involves the cleanliness and maintenance of the school facilities for 10th-grade students. Maintenance and cleanliness of school facilities involves more than managing resources; it also involves providing clean and safe environments for students. Clean and well-maintained school facilities communicate a message of responsibility and respect (Szuba and Young 2003). In fact, the California Department of Education (2002) argued that school cleanliness and maintenance does more than please the public. It also contributes to the health, happiness, and character development of its students. Vandalism and maintenance issues, such as broken windows and graffiti, can also pose a safety hazard to students and put a strain on school budgets (California Department of Education 2002). The ELS:2002 Facility Checklist required that survey interviewers examine several aspects of school cleanliness and also look for indications of ineffective maintenance of lighting, broken windows, and poorly maintained restroom areas. This report examines structural appearance issues with a specific focus on

- cleanliness of hallways, classrooms and bathrooms;
- graffiti on walls, lockers, desks and bathrooms; and
- maintenance issues, such as ceiling and wall disrepair, broken lights, and chipped paint.

In addition, the ELS:2002 Facilities Checklist asked interviewers to examine school restrooms and to note whether bathroom stalls had doors on them. Doors on bathroom stalls are sometimes removed in response to problems related to school safety or misbehavior. Bathroom stalls without doors could also be the result of the doors having been ripped off or broken without being replaced by school maintenance staff. Regardless of the reason, this condition at school most likely reflects a school that is poorly maintained, unsafe, or both.

A primary focus of the ELS:2002 Facilities Checklist was safety and security measures in the school. Locks, measures to improve visibility, traditional security measures, and appropriate signage were identified.

Safety measures guarantee the safety of students inside the school building in the event of a threat. Survey interviewers conducting the ELS:2002 Facilities Checklist were asked to identify if there were bars on the windows or posters or other materials on the glass in school classrooms that might limit an adult's ability to respond to threats.

Some schools have turned to advanced security measures and security policies to ensure student safety through crime prevention. These measures often focus on monitoring or controlling the physical environment of the school. They include metal detectors, security cameras, limits on student locker use, and exterior lighting. The premise of such techniques is to reduce opportunity for misbehavior and increase the likelihood of apprehension by monitoring the entry and movement of individuals while on school grounds. However, despite the fact that metal detectors have drawn attention as a potential remedy to weapon carrying in school, the 1999–2000 School Survey on Crime and Safety, administered to school principals, showed that only 1 percent of schools reported requiring students or visitors to pass through metal detectors each day (Miller 2003). Seven percent of schools reported performing random metal detector sweeps on students. The same survey found that 19 percent of schools use security cameras to monitor the school. The ELS:2002 Facilities Checklist asked survey interviewers to note the presence of these types of security measures in schools.

Another approach to controlling visitors and access to the school is to guide the behavior of students, staff, and visitors by displaying signs. Information for visitors to the school campus about sign-in procedures, trespassing, and policies on weapons and drugs should be clearly posted. Appropriate and comprehensive signage minimizes confusion and provides fewer excuses for trespassing on campus.

The perimeters of the school campus can be defined with fencing to control access at entrance and exit points. Fencing may limit student-neighbor interaction by avoiding disruption of school stakeholders and reducing the level of student truancy during the school day. Signage and fencing around the school perimeter was noted in the ELS:2002 Facilities Checklist by survey interviewers.

Finally, additional concerns with student behavior and the behavior of other potential troublemakers can be addressed with restrictions on access to lockers, the provision of adequate lighting, and the monitoring or control of school parking lots. The ELS:2002 Facilities Checklist investigated each of these issues. Survey interviewers identified whether the school provided lockers for its students and noted lighting and parking lot characteristics near the school.

Safety measures related to safety and security mechanisms discussed in this report are

- signage;
- security guards, security cameras, metal detectors, and barred windows;
- fencing;
- lighting; and
- parking lot security.

In 1995, the GAO reported that one-third of schools reported that poor acoustics were their most serious environmental concern. ELS:2002 survey interviewers recorded noise levels in school hallways.

While the school buildings and grounds are of importance to school safety and security, the neighborhoods surrounding our nation's schools are not isolated from exerting influence (Gottfredson and Gottfredson 1985). As Laub and Lauritsen (1998) suggest, neighborhoods exert substantial influence on schools as well as the students in them. Schools often inherit the difficulties present in the neighborhoods they serve. The ELS:2002 Facilities Checklist tapped a number of social indicators related to neighborhood disorder. Survey interviewers recorded information on directly observable indications of neighborhood conditions, including

- trash and graffiti in the neighborhood;
- boarded up buildings; and
- students or strangers loitering around school grounds.

Sample

The analysis presented in this report provides estimates on the characteristics of 10th-grade schools. In addition, the number and percentage of 10th-grade students exposed to particular school building conditions are provided. The characteristics of interest are

School-level characteristics

- school sector (public and private);
- school urbanicity (urban, suburban, and rural);¹
- school enrollment (1–399, 400–799, 800–1199, 1200–1599, and 1600 or more students);
- grade span (PK, K, 1, 2, 3, 4, or 5 through 12; 6, 7 or 8 through 12; 9 through 10, 11 or 12; and 10 through 11 or 12); and
- percent of 10th-grade students eligible for a free or reduced-price lunch (0–5 percent, 6–20 percent, 21–50 percent, and 51–100 percent).

¹ Urbanicity of school locale was from the Common Core of Data 1999-2000 and the Private School Survey 1999-2000. The specific definitions are as follows: *Urban*: the school is in a large or midsize central city; *Suburban*: the school is in a large or small town or is on the urban fringe of a large or midsize city; and *Rural*: the school is in a rural area, either inside or outside a metropolitan statistical area (MSA).

Student-level characteristics

- student demographics;
 - sex (female and male);
 - race/ethnicity (American Indian/Alaska Native, non-Hispanic; Asian, Hawaii/Pacific Islander, non-Hispanic; Black/African American, non-Hispanic; Hispanic; Multiracial, non-Hispanic; and White, non-Hispanic);
 - socioeconomic status (lowest quarter, middle two quarters, and highest quarter);
 - native language (non-English and English);
 - urbanicity of the school (urban, suburban, and rural) that each student attends; and
 - sector of the school (public and private) that each student attends.
- academic program placement (general, college preparatory, vocational); and
- academic achievement as measured by 10th-grade composite achievement test score (lowest quarter, middle two quarters, and highest quarter, where ‘quarters’ are 4 equal-sized divisions of the distribution, each containing 25 percent of the total observations).

Selected Findings

This report presents key findings from the Education Longitudinal Study of 2002 (ELS:2002) Facilities Checklist for all ELS:2002 public and private schools and students in the 10th grade. The findings are organized as follows:

School Estimates

- appearance (cleanliness and disrepair);
- safety and security measures;
- noise level; and
- neighborhood conditions.

Student Estimates

- exposure to selected school building appearances; and
- exposure to selected school safety and security measures.

The first section presents findings at the school level. Here, conditions of 10th-grade school facilities are described. The second section presents a description of the number and percentage of 10th-grade students who attend schools with a particular condition. Appendixes discuss the goals and objectives of the ELS:2002 study, the base-year study design and methodology. Also, discussions of base-year sampling, weighting, response rates, and standard errors follow. Additionally, an account is provided of the statistical procedures employed for this report. A glossary is presented and, finally, the facilities checklist instrument is duplicated.

All comparisons in the text are statistically significant at the .05 level unless otherwise noted. Large apparent differences between estimates may not be statistically significant due to large standard errors that render them unreliable. The reader is referred to the appendix for further details on the statistical methods and variables used in this report.

School Estimates

This section presents national estimates on the appearance, safety and security, noise levels, and neighborhood conditions for public and private 10th-grade schools in 2002.

Appearance (cleanliness and disrepair)

- Nationally, 66 percent of 10th-grade schools had at least one unacceptable physical or structural condition related to cleanliness, vandalism, and/or disrepair (table 1 and figure 1). For example,
 - Sixteen percent of schools had trash on the floor. Six percent had trash overflowing somewhere on school property.

- Ten percent had signs of graffiti somewhere in the school—on the walls, lockers, desks, and/or in the bathrooms.
- Thirty-three percent of schools had floors and/or walls that were not considered clean.
- Eleven percent had ceilings that were in disrepair.
- In 30 percent of the schools, not all bathroom stalls had doors.
- Three percent of schools had broken lights, and 8 percent had chipped paint on walls.
- However, very few schools were perceived to have multiple conditions of disrepair and lack of cleanliness (table 1). For example,
 - Six percent of schools had trash on the hallway floor, 4 percent had trash in the classrooms, and another 11 percent had trash on the bathroom floors, but 1 percent had trash in all three places.
 - Two percent of schools had graffiti in the front hallway, 4 percent in classrooms, and 7 percent in the bathrooms, but less than 1 percent had graffiti in all three locations.
- Indicators of the level of school disrepair and cleanliness varied by school characteristics, such as sector and urbanicity (table 2). For example,
 - Public schools were more likely than private schools to have graffiti (13 vs. 3 percent) and ceilings in disrepair (13 vs. 5 percent).
 - Urban schools were more likely than rural schools to have trash on the floor (26 vs. 12 percent) and graffiti (15 vs. 7 percent) (figure 1).

Safety and security measures

- Four percent of schools had bars on classroom windows and 25 percent had posters or other materials covering glass windows (table 3).
- School safety measures varied by school sector and urbanicity (table 3). For example,
 - Urban schools were more likely than both suburban and rural schools to have bars on classroom windows (13 vs. 1 percent and 1 percent, respectively).
- Nationally, 30 percent of 10th-grade schools used security guards, 4 percent used metal detectors, 18 percent had security cameras, and 18 percent had fencing around the entire school (table 3).

- The prevalence of informational signage varied on school campuses (table 3). Sixty percent of schools had signs directing visitors towards the front office. A number of schools had signs conveying messages about “no drugs” on school property (26 percent), “no weapons” on school property (16 percent), or warnings against “trespassing” on school grounds (21 percent).
- A relatively small percentage of schools monitored the entrances and exits to parking lots with cameras (10 percent) and/or by person (17 percent) (table 3).
- School security measures varied by school sector and urbanicity (table 3). For example,
 - Public schools were more likely than private schools to have security guards (35 vs. 15 percent) and metal detectors (5 vs. 2 percent) (figure 2).
 - Public schools were more likely than private schools to have signage related to drugs (33 vs. 7 percent) and weapons (19 vs. 6 percent) policies on school property.
 - Urban schools were more likely than both suburban and rural schools to have metal detectors (9 vs. 3 and 3 percent, respectively) and fencing around the entire school (36 vs. 13 and 13 percent, respectively).
 - Rural schools were more likely to have “no drugs” signage on campus than urban schools (31 vs. 20 percent).
 - Schools with 51–100 percent of 10th-graders eligible for free or reduced-price lunch were more likely to have metal detectors and bars on classroom windows than schools with 0–5, 6–20 and 21–50 percent of the 10th-grade students eligible for free or reduced-price lunch (13 vs. 2, 5, and 3 percent, respectively, having metal detectors and 16 vs. 1, 2, and 2 percent, respectively, having bars on classroom windows).

Noise level

- Nationally, very few 10th-grade schools were considered to have high noise levels. Three percent reported noise levels that exceeded the sound of yelling (table 4). Most schools had noise levels at about the sound of a whisper (58 percent).
- Sixty-five percent of schools with enrollment from 1 to 399 students had a noise level about the sound of a whisper compared to 47 percent of schools with enrollment levels from 1,200 to 1,599 and 1,600 or more (table 4).

Neighborhood conditions

- Nationally, most schools were located in neighborhoods that were generally perceived to be clean and safe (table 5). For example,

- Fifteen percent of schools were in neighborhoods where trash was present.
- Four percent of schools were located in neighborhoods where graffiti was present.
- Nine percent of schools were located next to or near boarded up buildings.
- However, these neighborhood conditions varied by whether the schools were located in urban, suburban, or rural areas (table 5). For example,
 - Urban schools were more likely than both suburban and rural schools to be located in neighborhoods where trash and litter was present (34 vs. 10 and 10 percent, respectively).
 - Urban schools were more likely than both suburban and rural schools to be located in neighborhoods where graffiti was present (14 vs. 1 and 0.1 percent, respectively).
 - Urban schools were more likely than rural schools to be located in neighborhoods near boarded up buildings (20 vs. 2 percent).
 - Schools with 51–100 percent of 10th-graders eligible for free or reduced-price lunch were more likely to be located in neighborhoods with boarded up buildings than schools with 50 percent or less of 10th-graders eligible (33 percent with 51–100 percent eligible for free or reduced-price lunch compared to 8 percent with 0–5 percent eligible, 3 percent with 6–20 percent eligible, and 2 percent with 21–50 percent eligible).
- Often the condition of the school reflected the surrounding neighborhood’s condition (table 5). For example,
 - Schools with trash on the floors were more likely than schools without trash on the floors to be located in neighborhoods where litter and trash was prevalent (42 vs. 10 percent).
 - Schools with graffiti were more likely to be in neighborhoods with graffiti evident than schools with no graffiti (10 vs. 3 percent).
 - Schools with broken windows were more likely than schools without broken windows to be located in neighborhoods with litter (68 vs. 13 percent).

Student Estimates

This section presents national estimates on the number of 10th-grade public and private students that attend schools with certain characteristics based on structural appearance and safety and security.

Exposure to selected school building appearances

- Twenty-two percent of public and private school 10th-graders attended schools where trash and litter were observed on the floors (table 6 and figure 3). Six percent attended schools where the trash was overflowing from trash cans.
- Thirty-one percent of 10th-graders attended schools where the floors and walls were not clean (table 6 and figure 3).
- Six percent went to schools where graffiti was present (table 6 and figure 3).
- About a quarter of 10th-graders attended schools that did not have a door on all bathroom stalls (table 6 and figure 3).
- Black students were more likely than White students to attend schools where trash was present on the floor (29 vs. 18 percent), graffiti was present (10 vs. 3 percent), and ceilings were in disrepair (12 vs. 7 percent) (table 6).
- Few differences were detected between students of varying socioeconomic levels, with one notable exception. Students from the lowest socioeconomic quarter were more likely than students from the highest quarter to attend a school where graffiti was a problem (8 vs. 4 percent) (table 6).
- Students who placed in the lowest quarter of their composite achievement tests were more likely to attend schools with trash on the floors (26 vs. 19 percent) and graffiti (9 vs. 3 percent) compared to students who placed in the highest composite achievement test quarter (table 6 and figure 3).
- No differences were detected in student exposure to school physical conditions between students who liked school a great deal and those who did not (table 6).

Exposure to selected school safety and security measures

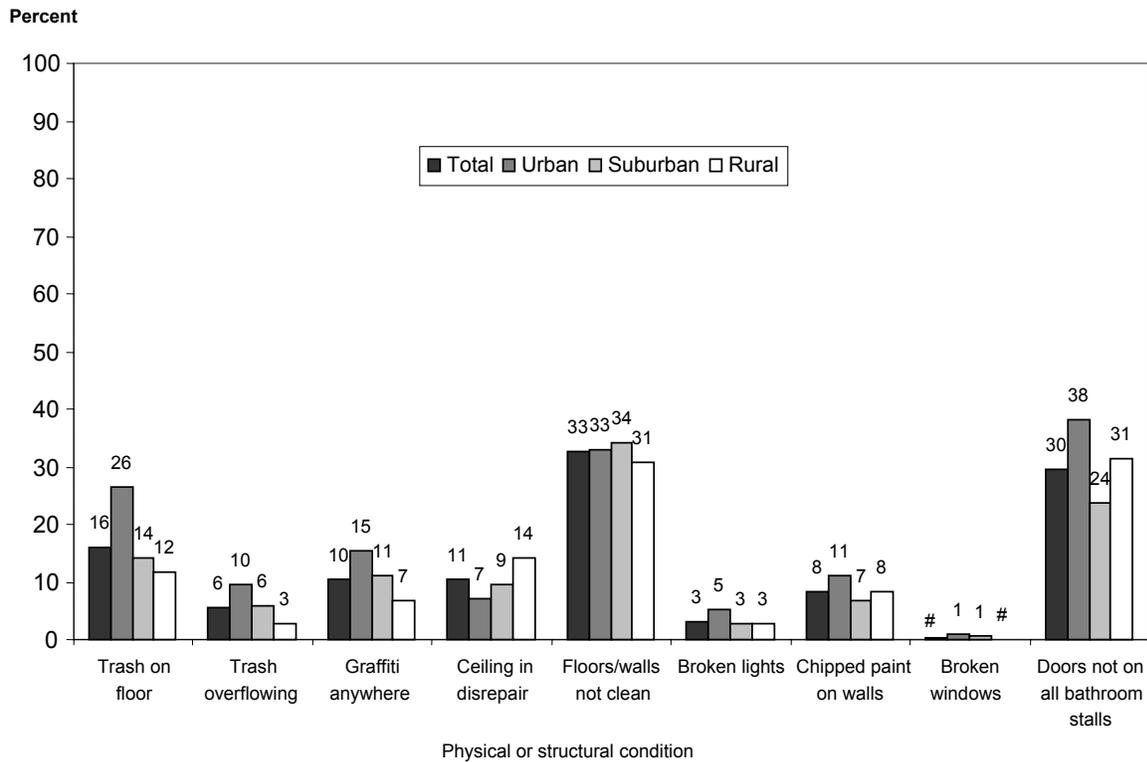
- Fifty-five percent of 10th-grade students attended schools with security guards, and 7 percent of students attended schools that used metal detectors (table 7 and figure 4).
- Thirty-one percent of 10th-grade students attended schools that used security cameras, and 5 percent attended schools that had bars on classroom windows (table 7 and figure 4).
- One third of 10th-grade students attended schools that displayed signage conveying a “no drugs” message and 19 percent attended schools with signs conveying a “no weapons” message (table 7).

- Black 10th-grade students were more likely than White 10th-grade students to attend schools that used security guards (71 vs. 47 percent), had metal detectors (21 vs. 3 percent), used security cameras (39 vs. 30 percent), and had bars on windows (9 vs. 2 percent) (table 7 and figure 4).
- Students from the lowest socioeconomic quarter were more likely than students from the highest socioeconomic quarter to attend schools that had metal detectors (10 vs. 5 percent) (table 7).
- Non English-speaking 10th-grade students were more likely than English-speaking 10th grade students to attend schools that used security guards (69 vs. 52 percent), had metal detectors (11 vs. 6 percent), had bars on the windows (13 vs. 3 percent), and had fencing around the entire school (47 vs. 23 percent) (table 7).
- Few differences were detected among 10th-grade students' reports of specified safety and security measures and their academic program placement (i.e. general, college preparatory, vs. vocational). One exception was that 10th-grade students in vocational programs were more likely than their counterparts in general and college preparatory programs to report metal detectors in their schools (13 vs. 7 and 6 percent, respectively) (table 7).
- Students who felt safe at school were more likely than students who did not feel safe at school to attend schools with security guards (64 vs. 54 percent) and metal detectors (11 vs. 7 percent) (table 7).

References

- California Department of Education. (2002). *School Safety and Security*. School Safety and Violence Prevention Office. Sacramento, CA.
- Gottfredson, G.D., and Gottfredson, D.C. (1985). *Victimization in Schools*. New York: Plenum.
- Laub, J.H., and Lauritsen, J.L. (1998). School Violence, Neighborhood and Family Conditions. In Elliott, D.S., Hamburg, B.A., and Williams, K.R. (Eds.), *Violence in American Schools*. New York: Cambridge University Press.
- Lewis, L., Snow, K., Farris, E., Smerdon, B., Cronen, S., and Kaplan, J. (2000). *Condition of America's Public School Facilities: 1999* (NCES 2000-032). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- Miller, A.K. (2003). *Violence in U.S. Public Schools: 2000 School Survey on Crime and Safety* (NCES 2003-314). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- Szuba, T., and Young, R. (2003). *Planning Guide for Maintaining School Facilities* (NCES 2003-347). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- U.S. General Accounting Office (GAO). (1995). *School Facilities: Condition of America's Schools*. Report to Congressional Requestors (GAO/HEHS-95-61). Washington, DC.

Figure 1. Percent of 10th-grade schools with a specified physical or structural condition present, by urbanicity: 2002

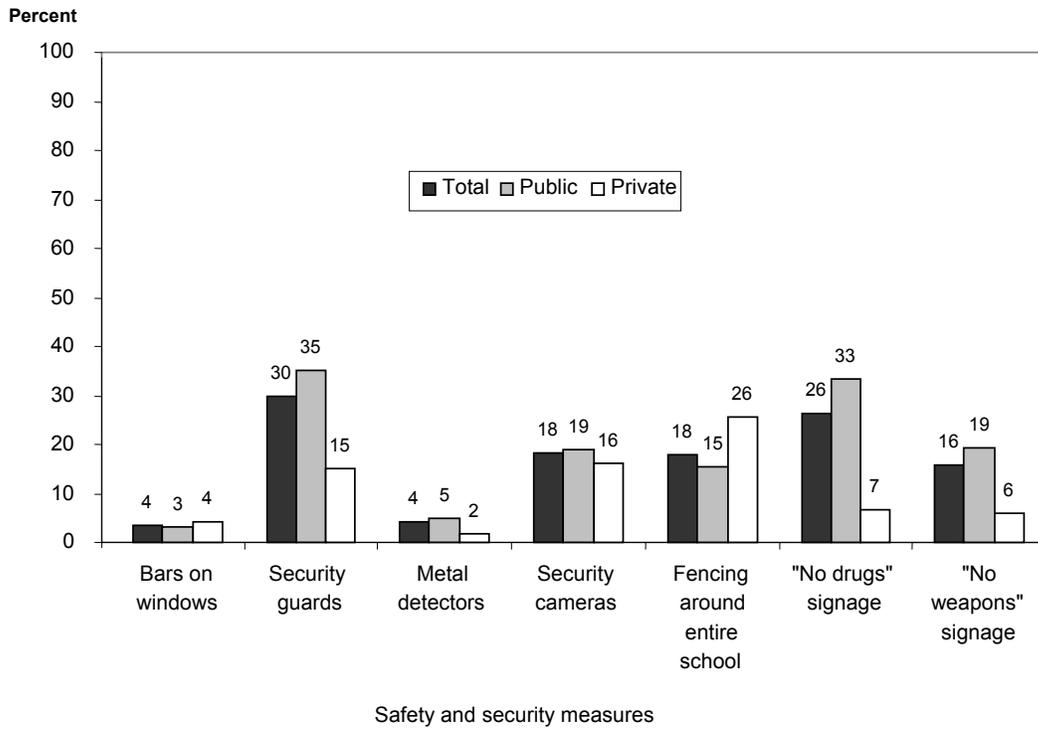


The estimate rounds to zero.

NOTE: Estimates include the described condition if it was present at any of the observed school locations in question (i.e., hallways, classrooms, or bathrooms). See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); School Administrator Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

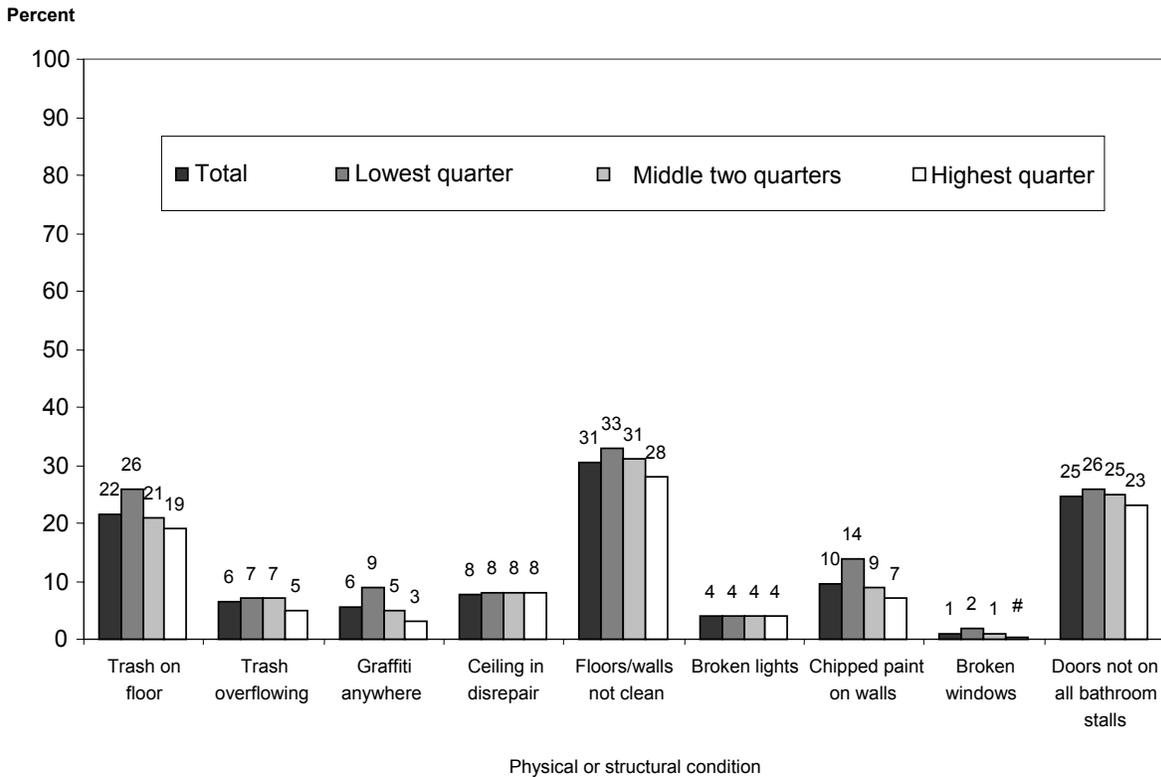
Figure 2. Percent of 10th-grade schools with specified safety and security measures, by school sector: 2002



NOTE: Estimates include the described condition if it was present at any of the observed school locations in question (i.e., hallways, classrooms, or bathrooms). See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); School Administrator Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Figure 3. Percent of 10th-grade students in schools with a specified physical or structural condition present, by student composite achievement test scores: 2002

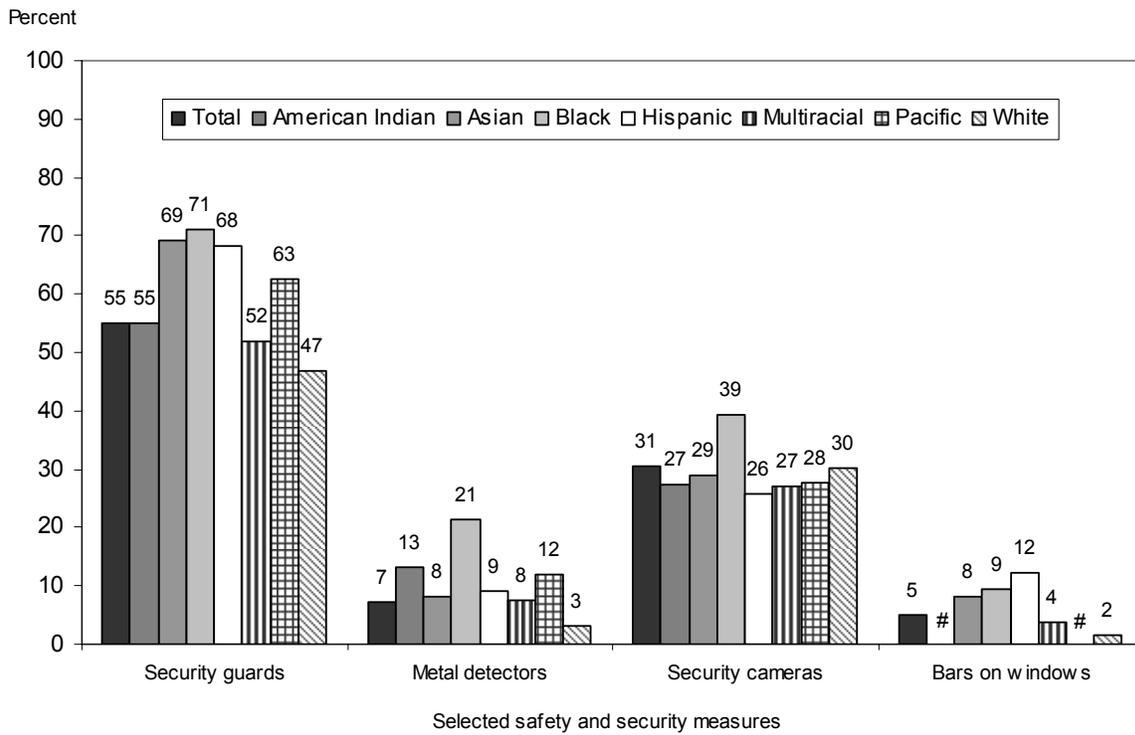


The estimate rounds to zero.

NOTE: Estimates include the described condition if it was present at any of the observed school locations in question (i.e., hallways, classrooms, or bathrooms). See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); Student Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Figure 4. Percent of 10th-grade students in schools with specified safety and security measures, by race/ethnicity: 2002



The estimate rounds to zero.

NOTE: Estimates include the described condition if it was present at any of the observed school locations in question (i.e., hallways, classrooms, or bathrooms). See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); Student Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Table 1. Percent of 10th-grade schools, by location within school and specified physical or structural condition: 2002

School condition	Front hallway ¹	Classrooms ²	Bathrooms ³	Condition present in hallways, classrooms, or bathrooms: At any school location	Condition present in hallways, classrooms, and bathrooms: At all school locations
At least one condition present	24.2	38.5	40.8	66.0	†
Trash on floor	6.1	3.9	10.6	16.0	0.7
Trash overflowing	2.2	0.7	3.6	5.6	0.1
Graffiti					
Any location	1.7	4.3	6.9	10.4	0.1
Walls	0.8	0.6	1.6	2.5	#
Lockers	1.4	—	—	1.4	—
Desks	—	4.2	—	4.2	—
Bathroom	—	—	6.7	6.7	—
Ceiling in disrepair	6.7	6.1	—	10.6	2.1
Floors/walls not clean	9.5	27.2	—	32.7	3.7
Broken lights	2.6	0.8	—	3.2	0.2
Chipped paint on walls	8.3	—	—	8.3	—
Broken windows	—	0.4	—	0.4	—
Doors not on all stalls	—	—	29.6	29.6	—

— Data were not collected or not reported.

† Not applicable.

The estimate rounds to zero.

¹ Observers were asked to stand in the main entrance into the school and observe the school's front hallway(s) during a time when most students are in class (i.e., a class period). They were allowed to take as much time as necessary to observe the hallway(s). For each item, they were instructed to indicate if they had observed it or not. See appendix C for specific survey items.

² Observers were asked to enter one classroom in which high school students were taught, during a change in classes or other time when the classrooms are not in session. For each item, they were instructed to indicate if they had observed it or not in the classroom. See appendix C for specific survey items.

³ Observers were asked to enter any student bathroom appropriate to their own sex during a time when most students were in class (i.e., a class period). For each item, they were instructed to indicate if they had observed it or not. See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); School Administrator Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Table 2. Percent of 10th-grade schools with a specified physical or structural condition present, by selected school characteristics: 2002

School characteristic	Trash on floor	Trash overflowing	Graffiti	Ceiling in disrepair	Floors/ walls not clean	Broken lights	Chipped paint on walls	Broken windows	Doors not on all bathroom stalls
Total	16.0	5.5	10.4	10.6	32.7	3.2	8.3	0.4	29.6
Sector									
Public	17.9	5.2	13.3	12.7	31.8	3.8	9.7	0.6	29.3
Private	10.7	6.5	2.5	5.0	35.4	1.4	4.3	#	30.2
Urbanicity									
Urban	26.4	9.6	15.3	7.2	32.8	5.1	11.1	0.8	38.1
Suburban	14.3	5.9	11.0	9.4	34.3	2.7	6.8	0.6	23.8
Rural	11.8	2.8	6.8	14.2	30.8	2.7	8.2	#	31.3
School enrollment									
1-399	12.9	2.6	4.0	19.0	37.8	3.8	12.1	#	35.5
400-799	13.3	4.0	15.6	4.7	27.2	2.7	2.9	0.3	29.6
800-1,199	9.8	5.8	9.8	4.1	24.1	2.6	4.4	1.6	20.6
1,200-1,599	16.0	7.9	20.5	7.1	35.0	1.7	11.9	#	19.5
1,600 plus	31.8	9.0	26.8	6.3	29.2	4.5	12.2	#	18.9
Grade span									
PK, K, 1, 2, 3, 4, or 5 through 12	4.2	3.7	0.5	11.4	39.7	#	4.3	#	24.7
6, 7, or 8 through 12	20.1	8.6	9.3	11.4	26.0	6.8	16.6	0.6	34.4
9 through 10, 11, 12	21.3	5.7	16.2	10.4	32.2	4.1	8.5	0.6	29.9
10 through 11, 12	28.3	6.5	19.0	4.0	7.0	4.0	2.8	#	25.1
Percent of grade 10 students eligible for a free or reduced-price lunch									
0-5 percent	14.5	8.5	4.5	4.6	35.2	2.6	4.1	#	26.4
6-20 percent	19.4	6.2	13.4	11.0	30.1	4.8	6.5	0.6	36.5
21-50 percent	9.0	1.2	13.6	16.6	32.9	1.2	7.9	0.7	19.6
51-100 percent	27.4	8.0	10.3	17.4	39.8	6.5	20.6	0.8	40.0

The estimate rounds to zero.

NOTE: Estimates include the described condition if it was present at any of the observed school locations in question (i.e., hallways, classrooms, or bathrooms). See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); School Administrator Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Table 3. Percent of 10th-grade schools with specified safety and security measures, by selected school characteristics: 2002

School characteristic	Classroom conditions ¹		Security measures ²					
	Bars on windows	Posters or other materials on glass windows	Security guards	Metal detectors	Security cameras	Fencing around entire school	Student lockers	Exterior lights
Total	3.5	25.3	29.8	4.1	18.3	18.0	83.3	80.9
Sector								
Public	3.2	22.5	35.0	5.0	19.1	15.4	89.1	85.5
Private	4.1	32.8	15.1	1.8	16.0	25.5	67.0	67.7
Urbanicity								
Urban	12.7	22.4	39.0	8.5	16.4	36.2	84.6	73.9
Suburban	1.4	23.4	33.1	3.1	22.7	13.1	79.9	79.9
Rural	0.8	28.9	20.6	2.8	14.3	13.2	86.6	86.0
School enrollment								
1-399	2.4	27.0	16.4	1.2	8.3	10.9	82.7	74.1
400-799	2.7	23.2	24.1	6.5	20.0	18.5	83.7	88.2
800-1,199	8.1	18.0	39.4	3.9	22.4	22.6	83.7	91.0
1,200-1,599	2.9	19.5	62.5	8.5	31.6	15.8	90.9	91.1
1,600 plus	7.6	22.8	70.3	5.1	35.3	42.9	82.2	84.4
Grade span								
PK, K, 1, 2, 3, 4, or 5 through 12	3.6	31.8	15.1	1.1	11.7	17.1	79.3	80.0
6, 7, or 8 through 12	0.8	25.3	18.9	5.4	15.4	7.8	80.6	74.1
9 through 10, 11, 12	4.3	19.2	41.3	5.7	22.9	21.9	87.9	83.9
10 through 11, 12	#	36.1	30.8	#	27.4	8.9	75.9	95.5
Percent of grade 10 students eligible for a free or reduced-price lunch								
0-5 percent	1.1	29.2	21.5	1.8	20.3	21.4	77.0	72.9
6-20 percent	1.9	30.1	28.0	4.5	19.1	14.8	89.3	87.8
21-50 percent	1.6	16.6	30.5	2.7	13.6	10.5	91.3	87.2
51-100 percent	16.0	14.3	44.9	12.8	15.6	36.6	82.7	78.6

See notes at end of table.

Table 3. Percent of 10th-grade schools with specified safety and security measures, by selected school characteristics: 2002—Continued

School characteristic	Signage ³				Parking Lots ⁴		
	Sign providing directions to front office or stating that visitors must proceed to the front office	A sign conveying the message "no drugs"	A sign conveying the message "no trespassing"	A sign conveying the message "no weapons"	Monitored by video camera	Monitored by person	Locked during the day
Total	60.5	26.3	21.0	15.7	10.2	17.0	11.7
Sector							
Public	66.8	33.3	25.4	19.2	9.7	19.9	12.5
Private	42.9	6.8	9.0	5.9	11.8	8.5	9.6
Urbanicity							
Urban	61.8	19.9	17.3	13.4	6.9	21.3	11.4
Suburban	57.4	25.5	22.7	18.7	14.2	16.9	17.1
Rural	63.4	31.1	21.3	13.6	7.3	14.8	5.8
School enrollment							
1-399	56.5	21.5	17.2	11.9	5.5	9.6	5.5
400-799	67.3	35.8	27.0	21.9	14.4	13.9	11.0
800-1,199	65.0	23.3	21.9	17.4	9.4	18.5	18.0
1,200-1,599	67.4	30.8	26.7	18.7	19.4	31.0	20.0
1,600 plus	65.5	33.7	34.4	19.7	16.8	42.4	24.0
Grade span							
PK, K, 1, 2, 3, 4, or 5 through 12	55.9	29.2	19.6	12.0	10.9	11.7	5.1
6, 7, or 8 through 12	59.7	20.3	22.4	14.0	6.6	9.0	10.3
9 through 10, 11, 12	63.5	26.3	21.5	18.3	10.6	21.8	15.8
10 through 11, 12	81.5	32.4	26.0	19.7	17.0	25.3	9.0
Percent of grade 10 students eligible for a free or reduced-price lunch							
0-5 percent	52.0	15.9	13.7	8.0	12.9	13.8	10.1
6-20 percent	68.1	29.1	25.7	13.4	10.4	15.0	18.5
21-50 percent	63.5	32.9	20.3	18.9	7.0	18.0	8.1
51-100 percent	58.5	32.0	30.4	20.9	4.3	21.7	11.4

The estimate rounds to zero.

¹ Observers were asked to enter one classroom in which high school students were taught, during a change in classes or other time when the classrooms are not in session. For each item, they were instructed to indicate if they had observed it or not in the classroom. See appendix C for specific survey items.

² Observers were asked if they had observed each of the listed security measures over the course of the interview day. See appendix C for specific survey items.

³ Observers were asked to indicate if they observed each sign either inside or outside of the main entrance to the school. Estimates include the described condition if it was present either inside or outside of the main entrance. See appendix C for specific survey items.

⁴ Observers were asked to observe the school parking lot(s) entrances and exits and to count the security measures present. Entrances and exits were defined as roadways into and/or out of parking lots that connect to roads off of school property. Estimates include the described condition if one or more of the select conditions were present. See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); School Administrator Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Table 4. Percent of 10th-grade schools with varying noise levels, by selected school characteristics: 2002

School characteristic	Noise level is about the sound of a whisper	Noise level is about the sound of a normal conversation	Noise level at least the sound of yelling
Total	57.8	39.6	2.6
Sector			
Public	56.8	40.4	2.8
Private	60.6	37.2	2.2
Urbanicity			
Urban	47.8	46.1	6.1
Suburban	59.9	38.6	1.5
Rural	61.6	36.7	1.7
School enrollment			
1-399	64.5	32.0	3.5
400-799	54.8	41.4	3.8
800-1,199	58.4	40.9	0.7
1,200-1,599	47.3	51.5	1.1
1,600 plus	46.6	52.1	1.2
Grade span			
PK, K, 1, 2, 3, 4, or 5 through 12	64.5	35.5	#
6, 7, or 8 through 12	46.4	46.9	6.7
9 through 10, 11, 12	56.6	40.5	2.9
10 through 11, 12	60.4	37.6	2.0
Percent of grade 10 students eligible for a free or reduced-price lunch			
0-5 percent	56.5	41.7	1.8
6-20 percent	62.5	34.0	3.5
21-50 percent	62.5	35.9	1.7
51-100 percent	45.9	48.7	5.4

The estimate rounds to zero.

NOTE: Observers were asked to stand in the main entrance into the school and observe the school's front hallway(s) during a time when most students are in class (i.e., a class period). They were then asked to rate the noise level of the school. See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); School Administrator Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Table 5. Percent of 10th-grade schools with a specified condition in the surrounding neighborhood, by selected school characteristics: 2002

School characteristic	Litter/trash in the neighborhood	Graffiti in the neighborhood	Boarded up buildings	Persons congregated on the streets	Students loitering
Total	15.2	3.5	9.2	4.2	5.1
Sector					
Public	15.1	2.3	8.5	2.9	6.3
Private	15.3	7.2	11.4	7.9	1.7
Urbanicity					
Urban	33.7	13.5	20.0	16.8	15.6
Suburban	10.4	1.4	9.9	1.2	3.0
Rural	9.8	0.1	2.1	0.1	1.5
School enrollment					
1-399	14.8	3.8	15.1	3.9	1.8
400-799	6.9	1.4	1.6	1.3	4.2
800-1,199	23.9	8.0	8.6	9.0	5.0
1,200-1,599	21.8	2.3	8.4	3.1	9.2
1,600 plus	19.1	3.8	2.1	5.9	12.4
Grade span					
PK, K, 1, 2, 3, 4, or 5 through 12	12.0	5.0	8.3	5.1	#
6, 7, or 8 through 12	13.2	3.9	11.8	5.0	10.0
9 through 10, 11, 12	17.9	2.8	9.5	3.4	6.1
10 through 11, 12	8.8	1.2	#	5.4	15.1
Percent of grade 10 students eligible for a free or reduced-price lunch					
0-5 percent	14.7	3.4	8.4	4.3	3.6
6-20 percent	10.1	1.3	3.3	2.5	5.7
21-50 percent	9.5	1.0	1.8	1.5	3.6
51-100 percent	33.6	12.8	33.4	12.4	10.1

See notes at end of table.

Table 5. Percent of 10th-grade schools with a specified condition in the surrounding neighborhood, by selected school characteristics: 2002—Continued

School characteristic	Litter/trash in the neighborhood	Graffiti in the neighborhood	Boarded up buildings	Persons congregated on the streets	Students loitering
School condition					
No trash on floor	10.0	2.7	6.8	3.5	2.5
Trash on floor	42.3	7.8	22.0	7.9	19.0
No trash overflowing	13.5	2.9	7.9	3.6	3.8
Trash overflowing	43.7	14.8	32.6	14.4	27.1
No graffiti	12.4	2.7	9.1	3.6	3.5
Graffiti	38.6	10.4	10.3	9.2	19.0
Ceiling not in disrepair	14.6	3.1	7.7	3.9	4.8
Ceiling in disrepair	19.4	7.1	21.8	7.0	8.0
Floors/walls clean	14.9	3.2	7.6	3.8	5.5
Floors/walls not clean	16.0	4.2	12.8	5.0	4.3
No broken lights	14.5	3.0	8.9	3.6	4.4
Broken lights	36.1	21.1	20.1	22.9	26.1
No chipped paint on walls	14.1	3.3	7.3	3.7	4.2
Chipped paint on walls	25.4	6.9	31.5	9.8	15.4
No broken windows	12.8	3.9	8.7	4.6	5.3
Broken windows	68.3	29.0	#	38.3	45.6
Doors on all bathroom stalls	22.6	7.0	19.4	8.2	7.6
Doors not on all bathroom stalls	12.2	2.2	5.2	2.6	4.2

The estimate rounds to zero.

NOTE: For each of the five neighborhood conditions, interviewers were asked to stand outside of the school (near the entrance, where most visitors arrive), and look at the neighborhood/area surrounding the school. They were asked to record the degree to which they noticed each condition: none, a little, some, or a lot. The percents presented here are the sum of a little, some, and a lot.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); School Administrator Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Table 6. Percent of 10th-grade students in schools with a specified physical or structural condition present, by selected student characteristics: 2002

Student characteristic	Trash on floor	Trash overflowing	Graffiti	Ceiling in disrepair	Floors/walls not clean	Broken lights	Chipped paint on walls	Broken windows	Doors not on all bathroom stalls
Total	21.6	6.4	5.6	7.8	30.5	3.7	9.6	1.0	24.7
Sex									
Female	20.9	6.5	5.6	8.1	30.9	3.5	9.6	0.9	25.2
Male	22.3	6.3	5.6	7.5	30.2	4.0	9.7	1.1	24.1
Race/Ethnicity									
American Indian, non-Hispanic	18.2	2.5	#	2.5	32.2	6.9	8.0	#	24.0
Asian, non-Hispanic	24.2	7.7	4.5	6.9	26.3	6.1	9.7	0.6	21.8
Black, non-Hispanic	29.2	10.2	10.1	12.0	37.2	5.0	16.3	2.1	32.7
Hispanic	27.9	7.4	12.3	8.8	34.3	3.6	16.4	2.1	23.6
Multiracial, non-Hispanic	22.0	6.0	6.2	8.8	27.5	5.2	11.2	1.6	22.6
Pacific Islander, non-Hispanic	12.3	#	9.3	9.3	35.0	4.8	6.4	#	50.4
White, non-Hispanic	18.1	5.3	2.8	6.6	28.4	3.2	6.2	0.4	23.3
Socioeconomic status									
Lowest quarter	22.9	6.9	8.2	8.8	32.9	3.7	12.4	1.5	25.5
Middle two quarters	21.6	6.5	5.1	7.8	31.0	3.7	9.3	1.0	24.7
Highest quarter	20.4	5.7	4.0	6.8	27.4	3.9	7.4	0.4	23.8
Sector									
Public	22.5	6.8	6.0	8.1	30.8	4.0	10.2	1.1	24.7
Private	11.3	2.1	1.1	4.1	27.6	0.7	3.3	#	23.7
Urbanicity									
Urban	27.5	7.9	7.6	9.3	35.0	4.5	16.7	0.9	26.9
Suburban	20.5	5.7	5.8	6.3	29.4	3.2	6.6	1.4	22.7
Rural	15.5	6.0	1.9	9.3	26.5	4.0	6.5	#	26.2

See notes at end of table.

Table 6. Percent of 10th-grade students in schools with a specified physical or structural condition present, by selected student characteristics: 2002—Continued

Student characteristic	Trash on floor	Trash overflowing	Graffiti	Ceiling in disrepair	Floors/walls not clean	Broken lights	Chipped paint on walls	Broken windows	Doors not on all bathroom stalls
Native language									
Non-English	30.1	7.7	11.5	9.3	34.9	4.1	16.4	1.7	23.0
English	20.2	6.1	4.6	7.7	29.7	3.6	8.5	0.8	24.7
High school program									
General	22.2	6.3	5.1	8.0	32.3	3.9	9.9	1.0	25.1
College preparatory	21.3	6.4	5.7	7.8	29.2	3.8	9.5	0.8	24.3
Vocational	21.5	7.3	6.8	7.3	30.7	2.6	9.2	1.5	24.8
Composite achievement test									
Lowest quarter	26.3	7.0	9.2	8.2	33.4	3.5	13.7	1.6	25.8
Middle two quarters	20.6	6.9	5.0	7.8	30.7	3.7	8.7	0.9	24.8
Highest quarter	19.1	5.0	3.2	7.5	27.5	4.1	7.4	0.4	23.2
Likes school a great deal									
Disagree	19.9	6.0	4.5	7.1	28.5	3.5	8.0	1.3	23.8
Agree	21.8	6.4	5.9	8.0	30.8	3.9	9.5	1.0	24.3
Feels safe at school									
Disagree	21.5	6.3	5.0	7.8	29.7	3.6	8.9	0.9	24.1
Agree	24.4	7.4	9.5	7.5	35.7	4.0	13.3	1.7	28.0

The estimate rounds to zero.

NOTE: Estimates include the described condition if it was present at any of the observed school locations in question (i.e., hallways, classrooms, or bathrooms). See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); Student Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Table 7. Percent of 10th-grade students in schools with specified safety and security measures, by selected student characteristics: 2002

Student characteristic	Security measures ¹						
	Security guards	Metal detectors	Security cameras	Bars on windows	Fencing around entire school	Student lockers	Exterior lights
Total	54.9	7.3	30.5	4.9	26.8	86.4	88.0
Sex							
Female	54.0	7.0	30.7	4.7	26.3	86.9	87.6
Male	55.7	7.6	30.4	5.2	27.3	86.0	88.4
Race/Ethnicity							
American Indian, non-Hispanic	54.9	13.2	27.4	#	39.4	94.4	83.8
Asian, non-Hispanic	69.1	8.2	28.8	8.3	39.2	80.8	84.7
Black, non-Hispanic	71.2	21.3	39.4	9.3	32.1	88.3	87.6
Hispanic	68.1	9.1	25.8	12.3	51.1	79.0	87.3
Multiracial, non-Hispanic	52.0	7.5	27.2	3.9	22.9	87.3	84.1
Pacific Islander, non-Hispanic	62.5	12.1	27.7	#	20.7	88.2	93.5
White, non-Hispanic	46.8	3.3	30.1	1.7	18.5	88.1	88.8
Socioeconomic status							
Lowest quarter	58.2	10.4	29.7	7.4	33.9	84.7	88.3
Middle two quarters	54.3	7.0	31.0	4.8	24.6	87.5	88.7
Highest quarter	52.7	4.9	30.4	2.7	24.3	86.0	86.3
Sector							
Public	57.1	7.8	31.4	5.2	26.2	86.8	88.6
Private	27.7	1.6	20.0	2.0	33.9	82.1	80.6
Urbanicity							
Urban	62.9	14.5	29.6	11.6	39.3	86.7	84.7
Suburban	53.7	4.2	33.3	2.8	23.1	85.6	88.4
Rural	45.7	4.2	25.1	0.5	17.3	88.1	91.9

See notes at end of table.

Table 7. Percent of 10th-grade students in schools with specified safety and security measures, by selected student characteristics: 2002—Continued

Student characteristic	Security measures ¹						
	Security guards	Metal detectors	Security cameras	Bars on windows	Fencing around entire school	Student lockers	Exterior lights
Native language							
Non-English	68.6	10.7	28.8	12.6	47.2	81.1	85.8
English	52.3	6.4	30.7	3.4	23.4	87.2	88.4
High school program							
General	52.7	7.0	28.9	5.4	26.4	87.4	88.3
College preparatory	55.4	6.4	31.1	3.9	26.1	85.6	88.0
Vocational	60.3	12.6	33.7	7.9	31.6	86.8	87.0
Composite achievement test							
Lowest quarter	60.7	12.4	30.9	8.8	33.0	85.8	88.0
Middle two quarters	54.3	6.4	31.2	4.2	25.9	86.5	88.2
Highest quarter	50.3	4.1	28.8	2.5	22.7	86.9	87.4
Likes school a great deal							
Disagree	49.7	5.9	31.2	3.7	21.1	86.2	87.4
Agree	54.7	6.8	30.3	4.6	26.2	87.0	88.2
Feels safe at school							
Disagree	53.5	6.9	30.1	4.4	25.7	86.5	87.5
Agree	63.8	10.9	32.6	7.8	33.4	86.5	91.0

See notes at end of table.

Table 7. Percent of 10th-grade students in schools with specified safety and security measures, by selected student characteristics: 2002—Continued

Student characteristic	Signage ²			Parking lots ³			
	Sign providing directions to front office or stating that visitors must proceed to the front office	A sign conveying the message "no drugs"	A sign conveying the message "no trespassing"	A sign conveying the message "no weapons"	Monitored by video camera	Monitored by person	Locked during the day
Total	66.7	33.3	28.8	19.4	15.6	30.8	20.0
Sex							
Female	66.8	33.2	28.7	18.9	15.2	31.1	20.4
Male	66.5	33.5	28.9	19.9	15.9	30.6	19.6
Race/Ethnicity							
American Indian, non-Hispanic	64.4	32.7	41.1	23.7	12.4	17.0	14.6
Asian, non-Hispanic	70.0	36.1	34.3	21.3	18.9	40.1	27.3
Black, non-Hispanic	66.0	35.8	34.0	25.3	20.1	33.7	22.2
Hispanic	57.6	39.0	36.2	23.7	10.9	40.3	23.9
Multiracial, non-Hispanic	70.4	30.1	24.0	17.7	14.4	26.9	20.4
Pacific Islander, non-Hispanic	56.0	17.2	36.6	15.5	23.8	23.4	4.2
White, non-Hispanic	68.9	31.4	25.3	16.8	15.7	27.6	18.1
Socioeconomic status							
Lowest quarter	65.1	35.8	31.6	21.9	13.9	32.1	22.2
Middle two quarters	67.1	33.0	28.3	19.0	16.3	30.0	19.0
Highest quarter	67.3	31.6	26.9	17.8	15.7	31.1	19.6
Sector							
Public	67.2	35.1	29.7	20.4	16.0	31.4	20.0
Private	60.8	12.3	17.9	7.6	9.7	22.7	19.7
Urbanicity							
Urban	60.2	29.1	26.6	17.4	12.9	33.0	18.6
Suburban	68.7	35.7	31.9	21.6	19.1	30.9	23.3
Rural	71.5	33.9	24.2	16.9	10.4	27.4	13.5

See notes at end of table.

Table 7. Percent of 10th-grade students in schools with specified safety and security measures, by selected student characteristics: 2002—Continued

Student characteristic	Signage ²			Parking lots ³			
	Sign providing directions to front office or stating that visitors must proceed to the front office	A sign conveying the message "no drugs"	A sign conveying the message "no trespassing"	A sign conveying the message "no weapons"	Monitored by video camera	Monitored by person	Locked during the day
Native language							
Non-English	59.5	35.8	34.8	21.1	14.1	37.7	23.7
English	68.0	32.9	27.8	18.9	15.8	29.6	19.3
High school program							
General	65.8	32.2	28.2	18.9	14.6	30.2	18.4
College preparatory	67.6	33.1	29.1	19.2	15.9	31.7	21.1
Vocational	65.5	38.6	29.4	22.2	17.6	28.7	20.3
Composite achievement test							
Lowest quarter	62.3	34.2	29.6	20.4	14.1	31.2	19.2
Middle two quarters	68.3	34.1	29.3	20.2	16.6	31.5	20.5
Highest quarter	67.7	31.1	26.9	16.8	14.9	29.0	19.8
Likes school a great deal							
Disagree	68.1	33.4	27.1	19.4	15.6	28.4	17.8
Agree	67.1	33.1	29.1	19.2	15.8	31.3	20.0
Feels safe at school							
Disagree	66.6	32.8	27.9	18.8	15.4	30.1	19.6
Agree	67.4	35.2	32.3	21.5	15.2	33.8	20.9

The estimate rounds to zero.

¹ Observers were asked if they had observed each of the listed security measures over the course of the interview day. See appendix C for specific survey items.

² Observers were asked to indicate if they observed each sign either inside or outside of the main entrance to the school. Estimates include the described condition if it was present either inside or outside of the main entrance. See appendix C for specific survey items.

³ Observers were asked to observe the school parking lot(s) entrances and exits and to count the security measures present. Entrances and exits were defined as roadways into and/or out of parking lots that connect to roads off of school property. Estimates include the described condition if one or more of the select conditions was present. See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); Student Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

This page is intentionally blank.

Appendix A
Technical Notes and Glossary

This page is intentionally blank.

A.1 Overview of the Technical Appendix

The National Center for Education Statistics (NCES) of the U.S. Department of Education has collected longitudinal data for more than 30 years. Starting in 1972 with the National Longitudinal Study of the High School Class of 1972 (NLS:72), and continuing to the most recent study, the Education Longitudinal Study of 2002 (ELS:2002), NCES has provided to education policymakers and researchers longitudinal and trend data that link secondary school educational achievement and experiences with important downstream outcomes, such as entry into the labor market and postsecondary educational access and attainment.

The base year of ELS:2002 represents the first stage of a major effort designed to provide data about critical transitions experienced by students as they proceed through high school and into postsecondary education or their careers. The 2002 sophomore cohort will be followed, initially at 2-year intervals, to collect policy-relevant data about educational processes and outcomes, especially as such data pertain to student learning, predictors of dropping out, and high school effects on students' access to, and success in, postsecondary education and the workforce.

The first section of this appendix details ELS:2002 study objectives; lists some of the major research and policy issues that the study addresses; provides an overview of the facilities checklist instrument and collection procedures; and supplies an overview of the base-year study design and methodology. This section is followed by discussions of base-year sampling, weighting, response rates, and standard errors. Next, an account is provided of the statistical procedures employed for this report. Finally, a glossary is provided that documents the specific variables used in the analyses in this report.

A.2 Overview of ELS:2002

A.2.1 Study Objectives

ELS:2002 is a longitudinal study, in which the same units are surveyed repeatedly over time. Individual students will be followed until about age 30; the base-year schools will be surveyed twice (they were surveyed in 2002 and will be surveyed again in 2004). In the high school years, ELS:2002 is an integrated multilevel study, involving multiple respondent populations, including students, their parents, their teachers, and their schools (from which data are collected at three levels: from the principal, the librarian, and from a facilities checklist). This multilevel focus will supply researchers with a comprehensive picture of the home, community, and school environments and their influences on the student. This multiple-respondent perspective is unified by the fact that, for most purposes, the student is the basic unit of analysis.¹

¹ Base-year school interviewer, library media center, and facilities data can be used to report on the nation's schools with 10th grades in the 2001–02 school year. However, the primary use of the school-level data (and the purpose of parent and teacher surveys) is to provide further contextual information on the student.

Key elements in the ELS:2002 longitudinal design are summarized by wave below.

Base Year (2002)

- Baseline survey of high school sophomores completed in spring term 2002.
- Cognitive tests in reading and mathematics completed.
- Surveys of parents, English teachers, and math teachers completed. School administrator questionnaires also collected.
- Additional components for this study included a school facilities checklist and a media center (library) questionnaire.
- Sample sizes of approximately 750 schools and over 17,000 students. Schools were the first-stage unit of selection, with sophomores randomly selected within schools.
- Oversampling of Asians and private schools.
- Design linkages with the Program for International Student Assessment (PISA) and the National Assessment of Educational Progress (NAEP) and score reporting linkages to the prior longitudinal studies.

First Follow-up (2004)

- Follow-up in 2004, when most sample members are seniors, but some are dropouts or in other grades.
- Student questionnaire, dropout questionnaire, assessment in mathematics, and school administrator questionnaire to be administered.
- Return to the same schools, but separately follow transfer students.
- Freshening for a 2004 senior cohort.
- High school transcript component in 2004 (coursetaking records for grades 9–12 at minimum).

Second Follow-up (2006)

- Post-high school follow-ups using computer-assisted telephone interviews (CATI).

Further Follow-ups

- Number of (and dates for) further CATI follow-ups to be determined.

A.2.2 ELS:2002 Research and Policy Issues

Apart from helping to describe the status of high school students and their schools, ELS:2002 will provide information to help address a number of key policy and research questions. The study is intended to produce a comprehensive dataset for the development and evaluation of educational policy at all government levels. Part of its aim is to inform decisionmakers, educational practitioners, and parents about the changes in the operation of the educational system over time and the effects of various elements of the system on the lives of the individuals who pass through it. Issues that can be addressed with data collected in the high school years include the following:

- Students' academic growth in mathematics.
- The process of dropping out of high school—determinants and consequences.
- The role of family background and the home education support system in fostering students' educational success.
- The features of effective schools (e.g., school structural or organizational features or practices associated with higher levels of achievement gain, after controls have been imposed for student background and other factors).
- The impact of coursetaking choices on success in the high school years (and thereafter).
- The equitable distribution of educational opportunities as registered in the distinctive school experiences and performance of students from various policy-relevant subgroups. Such subgroups include
 - students in public and private high schools;
 - language minority students;
 - students with disabilities;
 - students in urban, suburban, and rural settings;
 - students in different regions of the country;
 - students from upper, middle, and lower socioeconomic status levels;
 - male and female high school students; and
 - students from different racial or ethnic groups.
- Steps taken to facilitate the transition from high school to postsecondary education or the world of work.

After ELS:2002 students have completed high school, a new set of issues can be examined. These issues include

- the later educational and labor market activities of high school dropouts;
- the transition of those who do not go directly on to postsecondary education or to the world of work;
- access to, and choice of, undergraduate and graduate educational institutions;
- persistence in attaining postsecondary educational goals;
- rate of progress through the postsecondary curriculum;
- degree attainment;
- barriers to persistence and attainment;
- entry of new postsecondary graduates into the workforce;

- social and economic rate of return on education to both the individual and society; and
- adult roles, such as family formation and civic participation.

A.3 Overview of ELS:2002 Facilities Checklist

Estimates in this report examine the following conditions of school facilities:

- Cleanliness
- Graffiti
- Disrepair
- Lighting
- Bathrooms
- Safety measures:
 - Locks controlled from the inside
 - Bars on windows
 - Posters or other materials on glass windows
- Security measures:
 - Security guards
 - Metal detectors
 - Security cameras
 - Signage
 - Fencing around school
 - Student lockers
 - Exterior lights
- Controlled access to campus:
 - Monitoring of parking lots
 - Locking of parking lots
- Noise levels
- Surrounding neighborhood conditions:
 - Litter
 - Graffiti
 - Boarded up buildings
 - Loiterers

The facilities checklist was completed by an ELS:2002 survey interviewer while at the school.² Interviewers were trained at in-person sessions just prior to the start of data collection. They were familiarized with the instrument, its purpose, and its place in the larger context of ELS:2002. In order to maximize comparability of observations across schools, survey interviewers were asked to complete the facilities checklist in the middle of the day (for example, after the group administration for a morning session; before the group administration for an afternoon session). Certain items on the facilities checklist required interviewers to go to empty classrooms, meaning that they had to check the classrooms before classes started, during class change times, or during lunch. Procedures were also outlined for inspecting restrooms (e.g., the interviewer was told to enter only the restroom appropriate for her or his gender).

A.4 Sample Design, Weighting, Response Rates, Standard Errors

ELS:2002 was carried out on a national probability sample of 752 participating (of 1,221 eligible contacted) public, Catholic, and other private schools, in the spring term of the 2001–02 school year. Of 17,591 eligible selected sophomores, 15,362 completed a base-year questionnaire, as did 13,481 of their parents and 7,135 of their teachers.³ Of the 752 participating schools, 743 principals, and 718 librarians completed questionnaires, and interviewers completed facility checklists at each of the 752 participating schools.

Further details of the instrumentation, sample design, data collection results, data processing, and the data files available for analysis may be found in the *Education Longitudinal Study of 2002: Base Year Data File User's Manual* (Ingels, Pratt, Rogers, Siegel, and Stutts et al. 2003).⁴

A.4.1 Sampling

The ELS:2002 base-year sample design began with a nationally representative, two-stage stratified probability sample. The first stage of selection was schools; schools were selected with probability proportional to size (PPS). The public school sample was stratified by the nine U.S. Census divisions, and by urbanicity (metropolitan status of urban, suburban, or rural). Private schools (Catholic and other private) were stratified by four levels of geography (Census region) and urbanicity; private schools were oversampled. The target sample size was 800 schools. Cooperation was sought from 1,221 eligible selections. The realized sample comprised 752 participating 10th-grade schools. The second stage of selection was students. Of 17,591 sampled students in the schools, 15,362 students participated. Some groups (e.g., Asians) were oversampled.

² The sex composition of the interviewers has not been determined.

³ Note that the participating student sample defines the eligible parent and teacher samples. The 7,135 teacher completions are those linked to student respondents. Of the 15,362 student participants, 14,081 had at least one associated teacher-provided student report.

⁴ See appendix reference list (section A.6) for full citation. The manual can be downloaded from the NCES web site: <http://nces.ed.gov/pubsearch>.

A.4.2 Weighting

The general purpose of the weighting scheme was to compensate for unequal probabilities of selection of schools and students into the base-year sample and to adjust for the fact that not all schools and students selected into the sample actually participated. Three sets of weights were computed: a school weight, a weight for student questionnaire completion, and a contextual data weight for the “expanded” sample of questionnaire-eligible and questionnaire-ineligible students.⁵ School and student weights were adjusted for nonresponse, and these adjustments were designed to significantly reduce or eliminate nonresponse bias for data elements known for most respondents and nonrespondents. In addition, school weights were poststratified to known population totals. The estimates in this report were produced using BYSCHWT, a cross-sectional weight that generalizes to all regular high schools with 10th grades in the United States in the spring term of the 2001-02 school year, and BYSTUWT, a cross-sectional weight that generalizes to the population of 10th-graders in regular U.S. high schools in the spring term of the 2001–02 school year.

A.4.3 Response Rates

Of 1,221 eligible contacted schools, 752 participated in the study, for a unit weighted school participation rate of approximately 68 percent (62 percent unweighted). Of 17,591 selected eligible students, 15,362 participated, for a unit weighted student response rate of approximately 87 percent. Thus, the overall unit response rate for students was 59 percent (68 percent multiplied by 87 percent). School and student unit nonresponse bias analyses were performed, as well as an item nonresponse bias analysis for the questionnaires. The school-level bias due to nonresponse prior to weighting and after weighting was estimated based on the data collected from both respondents and nonrespondents, as well as sampling frame data. At the unit level (but not the item level), weighting techniques were employed to reduce detected bias, and after final nonresponse adjustments, the relative bias was reduced for schools and students. In general, when the relative bias was large before nonresponse adjustment, it was almost always reduced dramatically after nonresponse adjustment. When the relative bias was small before nonresponse adjustment, it stayed small after nonresponse adjustment, with occasional small increases. The data user should exercise caution in using the data because bias was not estimated and corrected for all variables. Unweighted school-level response by stratum is summarized in table A-1. Second-stage unit response rates by component are summarized in table A-2, and the weighted proportions for missing data that were imputed are shown in table A-3.

Key variables were imputed statistically primarily to reduce the bias of survey estimates caused by missing data. These items include the variables listed in table A-3. The primary imputation procedure was a weighted sequential hot deck procedure. No item from the facilities checklist was imputed. A more complete discussion of the imputation procedures can be found in Ingels et al. (2003).

⁵ The expanded sample weight generalizes to the population of all sophomores, regardless of whether they were capable of completing the questionnaire. The regular student questionnaire weight (BYSTUWT) generalizes only to the population of students who were eligible to complete the student questionnaire, i.e., those who were not judged incapable of participation by virtue of a severe disability or lack of proficiency in the English language. Base weights for schools and students are initially unadjusted, but are subsequently adjusted for nonresponse.

Table A-1. Unweighted school sampling, eligibility, and participation by sampling stratum: 2002

School sampling stratum	Sampled schools		Eligible schools		Participating schools	
	Number	Percent ¹	Number	Percent ²	Number	Percent ³
Total	1,268	100.00	1,221	96.29	752	61.59
Public	953	75.16	926	97.17	580	62.63
Catholic	140	11.04	140	100.00	95	67.86
Other private	175	13.80	155	88.57	77	49.68
Urban	434	34.23	414	95.39	250	60.39
Suburban	630	49.68	609	96.67	361	59.28
Rural	204	16.09	198	97.06	141	71.21

¹ Percent is based on overall total within column.

² Percent is based on number sampled within row.

³ Percent is based on number eligible within row.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002).

Table A-2. Summary of ELS:2002 base-year unit response rates: 2002

Instrument	Selected	Participated	Unweighted percent	Weighted percent	Overall weighted percent ¹
Student questionnaire	17,591	15,362	87.33	87.28	59.35
Student assessment ²	15,362	14,543	94.67	95.08	64.65
Parent questionnaire ³	15,362	13,488	87.80	87.45	59.47
Teacher ratings of students ⁴	15,362	14,081	91.66	91.64	62.32
School interviewer questionnaire	752	743	98.80	98.53	67.00
Library media center questionnaire	752	718	95.48	95.93	65.23
Facilities checklist	752	752	100.00	100.00	68.00

¹The overall weighted response rate is the weighted questionnaire response rate times the first stage weighted school response rate (68 percent).

²Percentage of cases for which a student questionnaire was obtained for which a cognitive test was also obtained. Note that test scores have been imputed where missing so that test scores are available for all 15,362 questionnaire completers.

³Indicates a coverage rate, or the proportion of participating students with a parent report. More parents participated; these completion rates reflect the number of records in the public-use data file, where parent (and teacher) data were excluded for students who did not complete a base-year student questionnaire.

⁴Indicates a coverage rate or the proportion of participating students with a rating from at least one teacher.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002).

Table A-3. ELS:2002 variables: Weighted proportion missing and imputed

Variable ¹	Percent imputed
Student sex	0.06
Student race/ethnicity	0.05
Mother's educational attainment ²	4.06
Mother's occupation ²	5.70
Father's educational attainment ²	10.00
Father's occupation ²	14.57
Family income ²	22.51
Student ability estimates (theta) for reading ³	6.26
Student ability estimates (theta) for mathematics ³	5.33

¹For key classification variables, missing data were replaced with imputed values.

²Used to construct socioeconomic status (SES).

³Used to construct normative (quartile) and proficiency scores.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Education Longitudinal Study of 2002 (ELS:2002).

A.4.4 Survey Standard Errors

Because the ELS:2002 sample design involved stratification, the disproportionate sampling of certain strata, and clustered (i.e., multistage) probability sampling, the resulting statistics are more variable than they would have been if they had been based on data from a simple random sample of the same size.

The calculation of exact standard errors for survey estimates can be difficult. Several procedures are available for calculating precise estimates of sampling errors for complex samples. Procedures such as Taylor Series approximations, Balanced Repeated Replication (BRR), and Jackknife Repeated Replication (JRR), which can be found in advanced statistical programs such as SUDAAN, AM, or WESVAR, produce similar results. The ELS:2002 analyses included in this report used AM (<http://am.air.org>) and the Taylor Series procedure to calculate standard errors.

A.5 Statistical Procedures

A.5.1 Student's *t* Statistic

Comparisons that have been drawn in the text of this report have been tested for statistical significance to ensure that the differences are larger than those that might be expected due to sampling variation. The statistical comparisons in this report were based largely on the *t* statistic. Whether the statistical test is considered significant or not is determined by calculating a *t* value for the difference between a pair of means or proportions and comparing this value to published tables of values, called critical values (cv). The alpha level is an *a priori* statement of the probability that a difference exists in fact rather than by chance.

The *t* statistic between estimates from various subgroups presented in the tables can be computed by using the following formula:

$$t = \frac{x_1 - x_2}{\sqrt{(SE_1^2 + SE_2^2)}}$$

where x_1 and x_2 are the estimates to be compared (e.g., the means of sample members in two groups), and SE_1 and SE_2 are their corresponding standard errors.

A.6 Glossary—Definitions of Variables Used

Each row variable used in the analyses for this report is described below, separately for the school and student-level analyses. More detailed information about derived or composite variables can be found in the ELS User’s Manual (see Ingels et al. 2003).

SCHOOL CHARACTERISTICS

SECTOR (BYSCTRL): Type of school: Public or Private. This is taken directly from ELS:2002 sampling data.

URBANICITY/LOCATION (BYURBAN): Metropolitan status of the school from the ELS sampling data: Urban, Suburban, or Rural. Urbanicity of school locale was from the Common Core of Data 1999–2000 and the Private School Survey 1999–2000. The specific definitions are as follows: *Urban*: the school is in a large of midsize central city; *Suburban*: the school is in a large or small town or is on the urban fringe of a large or midsize city; and *Rural*: the school is in a rural area, either inside or outside a metropolitan statistical area.

SCHOOL ENROLLMENT (BYSCENP): Total school enrollment from school questionnaire (categorical). Response categories were combined as follows to create five categories: 1–399; 400–599 and 600–799; 800–999 and 1000–1199; 1200–1599; 1600–1999 and 2000–2499 and 2500+ students.

GRADE SPAN (BYSPANP): Grade span of 10th-grade school from the school administrator questionnaire: PK, K, 1, 2, 3, 4, or 5 through 12; 6, 7, or 8 through 12; 9 through 10, 11, or 12; 10 through 11 or 12.

GRADE 10 PERCENT FREE LUNCH (BY10FLP): Percent of 10th-graders eligible for free or reduced-price lunch from the school administrator questionnaire (categorical). Response categories were combined as follows to create four categories: 0–5 percent; 6–10 percent and 11–20 percent; 21–30 percent and 31–50 percent; 51–75 percent and 76–100 percent.

STUDENT CHARACTERISTICS

SEX (SEX): This variable was constructed from BYS14 on the base-year student questionnaire or, where missing, from (in order of preference) the school roster, logical imputation based on first name, or statistical imputation.

RACE/ETHNICITY (RACE_R): The race/ethnicity variable for this report was based on RACE_R with one simplification: “Hispanic/Latino, race specified” and “Hispanic/Latino, no race specified” are combined into one category, “Hispanic or Latino.” The resulting categories were: (1) American Indian or Alaska Native; (2) Asian or Pacific Islander, including Native Hawaiian; (3) Black, non-Hispanic, including African American; (4) Hispanic or Latino; (5) More than one race or Multiracial; and (6) White, non-Hispanic. All race categories exclude individuals of Hispanic ethnicity.

RACE reflects new federal standards for collecting race and ethnicity data that allow respondents to mark more than one choice for race. RACE was obtained from the student questionnaire (BYS15, BYS17A, BYS17B, BYS17C, BYS17D, and BYS17E) when available or from (in order of preference) the sampling roster, the parent questionnaire if the parent respondent was a biological parent, or logical imputation based on other questionnaire items (e.g., surname, native language).

SOCIOECONOMIC STATUS (SES2QU): The socioeconomic status (SES) variable used in this report combines the middle two categories of the SES2QU variable, which divides SES2 into quarters based on the weighted marginal distribution. Three categories result: (1) lowest quarter of SES2 (i.e., students below the 25th percentile rank for SES); (2) middle two quarters of SES2 (i.e., students whose SES percentile rank was at least 25th and below 75th); and (3) highest quarter of SES2 (i.e., students whose SES percentile rank was at least 75th).

SES2 is a composite variable constructed from parent questionnaire data when available, and from imputation or student substitutions when not. SES is based on five equally weighted, standardized components: father’s/guardian’s education (FATHED), mother’s/guardian’s education (MOTHED), family income (INCOME), father’s/guardian’s occupational prestige score (from OCCUFATH), and mother’s/guardian’s occupational prestige score (from OCCUMOTH).

SECTOR (BYSCTRL): Type of school for each student: Public or Private. This is taken directly from ELS:2002 sampling data.

URBANICITY (BYURBAN): Metropolitan status of the school for each student from the ELS sampling data: Urban, Suburban, or Rural. Urbanicity of school locale was from the Common Core of Data 1999–2000 and the Private School Survey 1999–2000. The specific definitions are as follows: *Urban*: the school is in a large or midsize central city; *Suburban*: the school is in a large or small town or is on the urban fringe of a large or midsize city; and *Rural*: the school is in a rural area, either inside or outside a metropolitan statistical area.

NATIVE LANGUAGE/LANGUAGE MINORITY STATUS (STLANG): The data for STLANG were taken directly from the student questionnaire (BYS67) when available. Otherwise, they were imputed.

COMPOSITE ACHIEVEMENT TEST (BYTXCQU): This is the standardized test composite score (reading and mathematics) quarter. The composite score is the average of the math (BYTXMSTD) and reading (BYTXRSTD) standardized scores, restandardized to a national mean of 50.0 and standard deviation of 10.0. Some students had scores for only the

math test or reading test, but not both. For students who did not have both scores, the composite is based on the single score that was available. The standardized *t* score provides a norm-referenced measurement of achievement, that is, an estimate of achievement relative to the population (spring 2002 10th-graders) as a whole. It provides information on status compared to peers (as distinguished from the IRT-estimated number-right score, which represents status with respect to achievement on a particular criterion set of test items). The quarter score divides the weighted (population estimate) achievement distributions into four equal groups. The middle two groups were combined for the analyses in this report, resulting in three categories: the lowest quarter, the middle two quarters, and the highest quarter.

Please note at a point in time when this report was in a late stage of preparation, an error was found in the reading scores of a subset of the base-year student sample. An investigation of the impact of the error established that estimates based on the erroneous scores differed by very little from corrected estimates (where there was an effect at all, it was generally in the low tenths of one percent range) and affected no conclusions of this or other NCES reports then being drafted or reviewed. Nonetheless, because the base year error has now been corrected, data users employing the corrected files will find that they cannot replicate precisely the reading score estimates in this report.

HIGH SCHOOL PROGRAM (SCHPROG): Type of school program reported by the student: General, College preparatory, or Vocational.

FEELS SAFE AT SCHOOL (BYS20J): This variable is derived from an item that asks whether students “Strongly agree,” “Agree,” “Disagree,” or “Strongly disagree” with the following statement: “I don't feel safe at this school.” For this report, the four response options were collapsed into two: “Agree” and “Disagree.”

LIKES SCHOOL A GREAT DEAL (BYS28): This variable is derived from an item that asks how much students like school. The three response options are “Not at all,” “Somewhat,” and “A great deal.” For this report, the response options “Not at all” and “Somewhat” were collapsed into one option.

A.7 Appendix A Reference

Ingels, S.J., Pratt, D.J., Rogers, J., Siegel, P.H., and Stutts, E.S. (2003). *Education Longitudinal Study of 2002: Base Year Data File User's Manual* (NCES 2004-405). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office. Available: <http://nces.ed.gov/pubsearch>.

This page is intentionally blank.

Appendix B
Standard Error Tables

This page is intentionally blank.

Table S1. Standard errors for table 1: Percent of 10th-grade schools, by location within school and by specified physical or structural condition: 2002

School condition	Front hallway	Classrooms	Bathrooms	Condition present in hallways, classrooms, or bathrooms: At any school location	Condition present in hallways, classrooms, and bathrooms: At all school locations
At least one condition present	2.60	3.20	3.05	2.96	†
Trash on floor	1.26	1.00	1.74	2.10	0.36
Trash overflowing	0.90	0.29	0.98	1.28	0.09
Graffiti					
Any location	0.05	0.94	1.04	1.38	0.10
Walls	0.30	0.36	0.39	0.53	†
Lockers	0.46	—	—	0.46	—
Desks	—	0.88	—	0.88	—
Bathroom	—	—	1.00	1.00	—
Ceiling in disrepair	1.87	1.79	—	2.37	0.85
Floors/walls not clean	1.50	3.00	—	3.00	1.00
Broken lights	0.89	0.35	—	0.94	0.14
Chipped paint on walls	1.80	—	—	1.80	—
Broken windows	—	0.14	—	0.14	—
Doors not on all stalls	—	—	3.00	3.00	—

— Data were not collected or not reported.

† Not applicable.

NOTE: Estimates include the described condition if it was present at any of the observed school locations in question (i.e., hallways, classrooms, or bathrooms). See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); School Administrator Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Table S2. Standard errors for table 2: Percent of 10th-grade schools with a specified physical or structural condition present, by selected school characteristics: 2002

School characteristic	Trash on floor	Trash overflowing	Graffiti	Ceiling in disrepair	Floors/walls not clean	Broken lights	Chipped paint on walls	Broken windows	Doors not on all bathroom stalls
Total	2.10	1.30	1.40	2.40	3.00	0.90	1.80	0.10	3.00
Sector									
Public	2.56	1.20	1.80	3.08	3.40	1.20	2.30	0.20	3.53
Private	3.50	3.30	0.90	2.00	6.70	1.10	2.00	†	5.69
Urbanicity									
Urban	5.80	3.70	3.20	1.89	5.15	2.55	2.39	0.34	6.07
Suburban	2.50	2.00	1.89	3.14	4.56	1.04	2.99	0.33	3.83
Rural	3.20	1.10	2.40	5.19	5.76	1.70	3.31	†	6.01
Enrollment									
1-399	3.93	1.57	1.77	5.39	5.88	1.91	4.13	†	6.01
400-799	3.44	2.65	3.88	1.65	4.67	0.53	1.14	0.31	4.62
800-1,199	2.71	1.99	2.88	1.75	4.28	1.40	1.98	1.15	4.16
1,200-1,599	3.72	2.87	3.95	1.94	4.66	0.94	3.09	†	3.78
1,600 plus	3.88	1.95	3.73	1.91	3.58	1.44	2.32	†	2.71
Grade span									
PK, K, 1, 2, 3, 4, or 5 through 12	2.76	2.71	0.52	5.63	8.13	†	3.27	†	6.95
6, 7, or 8 through 12	6.18	4.29	4.05	4.53	6.73	4.04	5.29	0.07	7.32
9 through 10, 11, 12	2.98	1.42	2.21	2.89	3.30	1.31	2.41	0.30	3.45
10 through 11, 12	10.12	2.19	9.72	3.01	3.88	3.96	2.07	†	12.25
Percent of grade 10 students eligible for a free or reduced-price lunch									
0-5 percent	3.62	3.34	1.92	1.83	5.85	1.37	1.74	†	4.89
6-20 percent	4.62	2.10	3.87	4.00	5.18	2.06	2.40	0.57	6.95
21-50 percent	2.46	0.52	2.76	6.14	6.63	0.64	3.81	0.32	4.27
51-100 percent	8.56	4.23	2.73	8.29	9.43	3.84	8.25	0.59	10.01

† Not applicable.

NOTE: Estimates include the described condition if it was present at any of the observed school locations in question (i.e. hallways, classrooms, or bathrooms). See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); School Administrator Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Table S3. Standard errors for table 3: Percent of 10th-grade schools with specified safety and security measures, by selected school characteristics: 2002

School characteristic	Classroom conditions		Security measures					
	Bars on windows	Posters or other materials on glass windows	Security guards	Metal detectors	Security cameras	Fencing around entire school	Student lockers	Exterior lights
Total	1.06	2.98	2.44	0.76	2.11	2.10	2.29	2.66
Sector								
Public	0.88	3.24	3.00	0.96	2.07	1.87	1.79	2.69
Private	3.08	6.68	3.95	1.03	5.56	5.81	6.46	6.49
Urbanicity								
Urban	4.41	4.19	4.75	1.96	3.37	5.13	3.76	5.92
Suburban	0.71	2.79	3.48	1.02	3.03	1.94	3.58	3.78
Rural	0.71	6.60	4.62	1.30	4.06	4.22	3.84	4.29
Enrollment								
1-399	1.66	6.17	4.31	0.50	3.43	4.00	4.48	5.56
400-799	1.73	4.02	3.92	2.42	4.47	3.37	3.57	4.45
800-1,199	7.15	3.66	4.94	1.04	3.85	6.03	6.18	2.58
1,200-1,599	2.02	3.44	5.12	2.78	4.59	3.53	2.48	2.39
1,600 plus	1.91	3.40	3.44	1.33	3.46	3.65	2.80	2.80
Grade span								
PK, K, 1, 2, 3, 4, or 5 through 12	2.86	7.62	5.67	0.83	5.51	5.58	5.48	5.69
6, 7, or 8 through 12	0.67	5.50	5.22	2.86	5.26	2.99	6.84	7.97
9 through 10, 11, 12	1.21	2.53	2.94	1.03	2.00	2.35	1.92	2.84
10 through 11, 12	†	10.30	10.27	†	10.05	5.56	12.80	3.57
Percent of grade 10 students eligible for a free or reduced-price lunch								
0-5 percent	0.84	5.36	3.83	0.90	4.70	4.62	4.86	5.21
6-20 percent	0.80	7.64	3.99	1.40	3.65	2.98	3.76	4.44
21-50 percent	1.02	4.89	5.29	0.96	2.94	2.29	2.82	4.13
51-100 percent	6.93	3.80	8.61	3.94	3.20	8.27	6.32	8.11

See notes at end of table.

Table S3. Standard errors for table 3: Percent of 10th-grade schools with specified safety and security measures, by selected school characteristics: 2002—Continued

School characteristics	Signage				Parking Lots		
	Sign providing directions to front office or stating that visitors must proceed to the front office	A sign conveying the message "no drugs"	A sign conveying the message "no trespassing"	A sign conveying the message "no weapons"	Monitored by video camera	Monitored by person	Locked during the day
Total	3.30	3.04	2.58	2.24	1.95	2.17	1.46
Sector							
Public	3.71	3.80	3.31	2.82	1.63	2.77	1.59
Private	6.29	3.03	2.46	2.96	6.05	2.47	3.37
Urbanicity							
Urban	5.57	4.07	3.49	3.16	1.51	4.37	1.82
Suburban	4.45	3.36	3.04	3.28	2.83	2.18	2.75
Rural	6.86	6.91	5.90	4.50	3.92	4.71	1.64
Enrollment							
1-399	6.54	6.33	5.16	4.33	3.40	3.79	2.19
400-799	5.35	5.69	4.92	4.64	5.13	3.54	3.13
800-1,199	5.97	4.00	3.67	3.25	2.79	3.49	4.18
1,200-1,599	5.12	4.33	3.95	3.60	3.66	3.69	3.83
1,600 plus	3.75	3.85	3.70	3.23	2.62	3.66	2.79
Grade span							
PK, K, 1, 2, 3, 4, or 5 through 12	7.90	8.05	6.93	5.55	6.04	5.69	3.03
6, 7, or 8 through 12	7.11	6.05	6.35	5.41	2.98	3.56	3.33
9 through 10, 11, 12	3.55	2.72	2.40	2.52	1.31	2.41	1.86
10 through 11, 12	7.68	9.86	9.32	7.11	7.28	8.81	4.58
Percent of students eligible for a free or reduced-price lunch							
0-5 percent	5.73	3.67	2.66	2.81	5.02	2.70	2.24
6-20 percent	5.77	7.00	7.42	3.78	2.39	2.87	4.09
21-50 percent	6.57	6.79	5.10	5.38	1.52	5.22	2.17
51-100 percent	9.45	7.65	7.66	5.81	2.20	8.09	4.01

† Not applicable.

NOTE: Estimates include the described condition if it was present at any of the observed school locations in question (i.e., hallways, classrooms, or bathrooms). See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002) School Administrator Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Table S4. Standard errors for table 4: Percent of 10th-grade schools with varying noise levels, by selected school characteristics: 2002

School characteristic	Noise level is about the sound of a whisper	Noise level is about the sound of a normal conversation	Noise level at least the sound of yelling
Total	2.98	2.95	0.81
Sector			
Public	3.44	3.39	0.94
Private	5.99	6.00	1.55
Urbanicity			
Urban	5.61	5.64	3.00
Suburban	4.13	4.09	0.95
Rural	5.59	5.57	0.41
Enrollment			
1-399	5.80	5.71	1.82
400-799	5.77	5.81	1.23
800-1,199	5.40	5.37	0.68
1,200-1,599	5.02	5.03	1.14
1,600 plus	3.78	3.79	0.44
Grade span			
PK, K, 1, 2, 3, 4, or 5 through 12	7.31	7.31	†
6, 7, or 8 through 12	7.10	7.11	2.29
9 through 10, 11, 12	3.23	3.15	1.38
10 through 11, 12	10.80	10.59	2.01
Percent of grade 10 students eligible for a free or reduced-price lunch			
0-5 percent	5.19	5.23	1.33
6-20 percent	5.16	4.85	1.21
21-50 percent	6.10	6.01	1.21
51-100 percent	9.52	9.27	4.09

† Not applicable.

NOTE: Observers were asked to stand in the main entrance into the school and observe the school's front hallway(s) during a time when most students are in class (i.e., a class period). They were then asked to rate the noise level of the school. See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); School Administrator Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Table S5. Standard errors for table 5: Percent of 10th-grade schools with a specified condition in the surrounding neighborhood, by selected school characteristics: 2002

School characteristic	Litter/trash in the neighborhood	Graffiti in the neighborhood	Boarded up buildings	Persons congregated on the streets	Students loitering
Total	2.29	1.20	2.30	1.24	0.96
Sector					
Public	2.44	0.81	2.60	0.85	1.26
Private	5.41	3.92	4.84	4.07	0.97
Urbanicity					
Urban	6.64	5.13	6.75	5.17	3.80
Suburban	2.35	0.59	3.63	0.58	0.61
Rural	3.10	0.11	1.51	0.12	1.03
Enrollment					
1-399	4.42	2.24	4.70	2.33	1.35
400-799	2.59	1.06	1.10	1.06	2.49
800-1,199	6.36	6.28	6.24	6.22	1.65
1,200-1,599	4.32	1.58	2.35	1.38	2.62
1,600 plus	2.85	1.31	0.97	1.75	2.71
Grade span					
PK, K, 1, 2, 3, 4 or 5 through 12	5.11	3.43	4.31	3.54	†
6, 7 or 8 through 12	4.96	2.18	5.01	2.49	4.51
9 through 10, 11, 12	2.89	1.06	3.32	1.08	1.25
10 through 11, 12	5.53	1.19	†	2.30	6.90
Percent of grade 10 students eligible for a free or reduced-price lunch					
0-5 percent	4.45	2.52	3.69	2.64	1.96
6-20 percent	3.80	1.14	1.63	1.24	2.02
21-50 percent	2.33	0.46	1.20	0.53	0.89
51-100 percent	9.21	6.17	10.65	6.19	4.31

See notes at end of table.

Table S5. Standard errors for table 5: Percent of 10th-grade schools with a specified condition in the surrounding neighborhood, by selected school characteristics: 2002—Continued

School characteristic	Litter/trash in the neighborhood	Graffiti in the neighborhood	Boarded up buildings	Persons congregated on the streets	Students loitering
School condition					
No trash on floor	1.92	1.26	2.10	1.30	0.47
Trash on floor	7.31	3.59	8.05	3.67	5.19
No trash overflowing	2.22	1.13	2.24	1.17	0.63
Trash overflowing	12.11	9.37	12.98	9.34	11.42
No graffiti	2.40	1.31	2.53	1.34	0.83
Graffiti	6.43	2.95	4.12	3.02	5.42
Ceiling not in disrepair	2.43	1.31	2.18	1.34	1.03
Ceiling in disrepair	7.04	3.23	10.71	3.43	3.12
Floors/walls clean	2.74	1.34	2.46	1.40	1.33
Floors/walls not clean	4.05	2.43	4.75	2.52	1.22
No broken lights	2.31	1.13	2.32	1.16	0.84
Broken lights	13.05	13.53	13.85	15.01	13.14
No chipped paint on walls	2.41	1.30	2.08	1.32	0.99
Chipped paint on walls	8.11	3.02	12.89	4.00	4.98
No broken windows	1.96	1.33	2.23	1.37	1.06
Broken windows	19.51	17.36	†	16.62	18.63
Doors on all bathroom stalls	5.80	3.20	6.18	3.36	2.78
Doors not on all bathroom stalls	1.97	1.06	1.75	1.11	0.77

† Not applicable.

NOTE: For each of the five neighborhood conditions, interviewers were asked to stand outside of the school (near the entrance, where most visitors arrive), and look at the neighborhood/area surrounding the school. They were asked to record the degree to which they noticed each condition: none, a little, some, or a lot. The percents presented here are the sum of a little, some, and a lot.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); School Administrator Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Table S6. Standard errors for table 6: Percent of 10th-grade students in schools with a specified physical or structural condition present by selected

Student characteristic	Trash on floor	Trash overflowing	Graffiti	Ceiling in disrepair	Floors/walls not clean	Broken lights	Chipped paint on walls	Broken windows	Doors not on all bathroom stalls
Total	1.84	0.95	1.05	1.18	1.94	0.83	1.27	0.41	1.74
Sex									
Female	1.84	0.99	1.05	1.23	1.98	0.78	1.25	0.33	1.82
Male	1.93	0.98	1.09	1.22	2.01	0.90	1.36	0.51	1.78
Race									
American Indian, non-Hispanic	6.35	1.61	†	1.47	9.67	4.39	4.70	†	10.31
Asian, non-Hispanic	3.98	2.17	1.41	2.39	3.80	2.76	2.68	0.39	3.46
Black, non-Hispanic	3.32	2.32	2.34	2.28	3.34	1.60	2.70	0.74	3.41
Hispanic	3.99	1.81	3.61	2.73	3.83	0.99	3.60	1.64	3.23
Multiracial, non-Hispanic	2.87	1.35	1.43	1.96	2.94	1.60	2.16	0.69	2.59
Pacific Islander, non-Hispanic	6.37	†	6.75	6.58	11.00	4.65	6.23	†	11.27
White, non-Hispanic	1.80	0.94	0.70	1.27	2.15	1.00	1.15	0.28	1.86
Socioeconomic Status									
Lowest quarter	2.43	1.27	1.90	1.69	2.57	0.85	2.05	0.78	2.21
Middle two quarters	1.89	1.00	1.00	1.20	2.07	0.85	1.28	0.38	1.87
Highest quarter	2.11	1.04	0.96	1.21	2.22	1.02	1.23	0.16	2.10
Control									
Public	1.98	1.03	1.13	1.27	2.08	0.90	1.37	0.44	1.86
Private	2.40	1.00	0.65	1.40	3.62	0.50	1.24	†	2.93
Urbanicity									
Urban	3.78	2.13	2.36	2.37	3.73	1.51	3.00	0.31	3.29
Suburban	2.56	1.18	1.45	1.48	2.72	1.18	1.52	0.79	2.44
Rural	3.14	1.91	1.11	2.85	4.02	1.86	2.13	†	3.75

See notes at end of table.

Table S6. Standard errors for table 6: Percent of 10th-grade students in schools with a specified physical or structural condition present, by selected student characteristics: 2002—Continued

Student characteristic	Trash on floor	Trash overflowing	Graffiti	Ceiling in disrepair	Floors/walls not clean	Broken lights	Chipped paint on walls	Broken windows	Doors not on all bathroom stalls
Native Language									
Non-English	3.91	1.80	3.24	2.75	3.50	1.06	3.41	1.20	2.89
English	1.73	0.93	0.83	1.16	1.94	0.87	1.13	0.34	1.73
High school program									
General	2.04	1.02	1.00	1.37	2.31	1.04	1.44	0.46	1.97
College preparatory	1.85	0.99	1.08	1.18	1.92	0.91	1.29	0.37	1.79
Vocational	2.44	1.53	1.73	1.63	2.75	0.68	1.72	0.69	2.64
Composite achievement test									
Lowest quarter	2.61	1.33	1.86	1.47	2.56	0.81	2.05	0.76	2.27
Middle two quarters	1.80	1.09	0.98	1.19	1.99	0.86	1.16	0.36	1.82
Highest quarter	2.02	0.89	0.73	1.33	2.17	1.24	1.30	0.20	2.07
Likes school a great deal									
Disagree	2.15	1.21	0.94	1.35	2.27	1.11	1.48	0.51	2.09
Agree	1.90	0.94	1.16	1.24	2.02	0.90	1.33	0.45	1.76
Feels safe at school									
Disagree	1.84	0.94	0.95	1.17	1.94	0.81	1.20	0.39	1.73
Agree	2.63	1.47	2.03	1.45	2.76	0.95	2.18	0.73	2.54

† Not applicable.

NOTE: Estimates include the described condition if it was present at any of the observed school locations in question (i.e., hallways, classrooms, or bathrooms).

See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); Student Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

Table S7. Standard errors for table 7: Percent of 10th-grade students in schools with specified safety and security measures, by selected student characteristics: 2002

Student characteristic	Security measures						
	Security guards	Metal detectors	Security cameras	Bars on windows	Fencing around entire school	Student lockers	Exterior lights
Total	1.92	0.98	1.80	1.01	1.70	1.41	1.28
Sex							
Female	2.01	0.95	1.88	1.00	1.75	1.42	1.38
Male	1.97	1.08	1.90	1.08	1.77	1.50	1.28
Race							
American Indian, non-Hispanic	10.08	7.89	8.06	†	11.27	3.03	8.26
Asian, non-Hispanic	3.65	1.95	3.19	3.04	3.92	3.09	2.78
Black, non-Hispanic	2.78	2.99	3.36	2.34	3.17	2.08	2.22
Hispanic	3.63	1.83	3.22	2.93	3.82	3.49	2.42
Multiracial, non-Hispanic	3.04	1.55	2.94	1.21	2.71	2.09	2.42
Pacific Islander, non-Hispanic	10.64	7.16	9.29	†	9.04	6.32	3.84
White, non-Hispanic	2.21	0.87	2.12	0.60	1.61	1.36	1.41
Socioeconomic Status							
Lowest quarter	2.46	1.45	2.20	1.63	2.48	2.01	1.53
Middle two quarters	2.04	0.96	2.04	1.06	1.79	1.47	1.28
Highest quarter	2.36	1.11	2.29	0.81	1.87	1.69	1.96
Control							
Public	2.05	1.06	1.97	1.09	1.81	1.50	1.36
Private	3.68	0.85	3.40	1.59	3.84	3.14	3.13
Urbanicity							
Urban	3.38	2.22	3.10	2.58	3.45	2.49	2.48
Suburban	2.78	1.33	2.83	1.28	2.38	2.15	1.81
Rural	4.39	1.36	3.59	0.45	2.97	2.57	2.59

See notes at end of table.

Table S7. Standard errors for table 7: Percent of 10th-grade students in schools with specified safety and security measures, by selected student characteristics: 2002—Continued

Student characteristic	Security measures						
	Security guards	Metal detectors	Security cameras	Bars on windows	Fencing around entire school	Student lockers	Exterior lights
Native Language							
Non-English	3.35	1.92	2.84	2.69	3.41	2.89	2.48
English	1.96	0.95	1.90	0.79	1.58	1.37	1.28
High school program							
General	2.19	0.95	2.06	1.14	1.96	1.48	1.37
College preparatory	2.03	1.07	1.93	0.89	1.73	1.51	1.32
Vocational	2.66	2.41	2.80	1.90	2.49	1.98	2.49
Composite achievement test							
Lowest quarter	2.41	1.82	2.31	1.89	2.55	1.95	1.50
Middle two quarters	2.00	0.92	1.91	0.93	1.75	1.44	1.31
Highest quarter	2.28	1.13	2.27	0.72	1.87	1.59	1.77
Likes school a great deal							
Disagree	2.49	1.09	2.38	1.00	1.92	1.87	1.69
Agree	1.98	0.96	1.88	1.02	1.75	1.40	1.29
Feels safe at school							
Disagree	1.92	0.98	1.84	0.94	1.67	1.40	1.34
Agree	2.48	1.52	2.64	2.00	2.68	2.13	1.38

See notes at end of table.

Table S7. Standard errors for table 7: Percent of 10th-grade students in schools with specified safety and security measures, by selected student characteristics: 2002—Continued

Student characteristic	Signage			Parking lots			
	Sign providing directions to front office or stating that visitors must proceed to the front office	A sign conveying the message "no drugs"	A sign conveying the message "no trespassing"	A sign conveying the message "no weapons"	Monitored by video camera	Monitored by person	Locked during the day
Total	2.04	2.00	1.97	1.63	1.49	1.81	1.59
Sex							
Female	2.06	2.02	2.01	1.62	1.50	1.86	1.66
Male	2.15	2.10	2.06	1.73	1.55	1.87	1.62
Race/Ethnicity							
American Indian, non-Hispanic	9.61	10.75	10.89	10.07	5.00	4.67	3.69
Asian, non-Hispanic	3.71	4.29	4.67	3.82	3.39	4.03	3.74
Black, non-Hispanic	3.50	3.30	3.15	3.01	2.88	3.22	2.80
Hispanic	4.03	4.07	3.96	3.55	2.44	3.95	3.58
Multiracial, non-Hispanic	2.80	2.86	2.68	2.36	2.37	2.76	2.50
Pacific, non-Hispanic	11.23	6.27	11.17	5.52	9.64	9.83	2.18
White, non-Hispanic	2.24	2.19	2.17	1.71	1.67	2.04	1.67
Socioeconomic status							
Lowest quarter	2.62	2.53	2.44	2.10	1.75	2.28	2.34
Middle two quarters	2.16	2.13	2.08	1.70	1.65	1.94	1.59
Highest quarter	2.53	2.39	2.31	1.85	1.79	2.20	1.88
Control							
Public	2.19	2.14	2.12	1.75	1.59	1.93	1.69
Private	4.14	2.87	3.43	2.26	2.30	3.19	3.40
Urbanicity							
Urban	3.73	3.80	3.40	2.81	2.46	3.10	2.65
Suburban	2.95	2.80	2.95	2.39	2.37	2.62	2.41
Rural	4.29	4.23	4.03	3.55	2.37	4.14	3.11

See notes at end of table.

Table S7. Standard errors for table 7: Percent of 10th-grade students in schools with specified safety and security measures, by selected student characteristics: 2002—Continued

Student characteristic	Signage			Parking lots			
	Sign providing directions to front office or stating that visitors must proceed to the front office	A sign conveying the message "no drugs"	A sign conveying the message "no trespassing"	A sign conveying the message "no weapons"	Monitored by video camera	Monitored by person	Locked during the day
Native Language							
Non-English	3.61	3.51	3.58	2.70	2.25	3.14	3.19
English	2.05	2.00	1.95	1.64	1.51	1.86	1.56
High school program							
General	2.31	2.26	2.25	1.83	1.60	1.99	1.72
College preparatory	2.09	2.07	2.02	1.69	1.57	1.95	1.71
Vocational	3.02	3.09	3.04	2.79	2.71	2.51	2.44
Composite achievement test							
Lowest quarter	2.75	2.57	2.45	2.06	1.75	2.32	2.02
Middle two quarters	2.04	2.06	2.04	1.73	1.59	1.92	1.63
Highest quarter	2.51	2.32	2.40	1.78	1.81	2.05	1.90
Likes school a great deal							
Disagree	2.44	2.57	2.51	2.19	1.92	2.27	1.84
Agree	2.09	2.05	2.03	1.67	1.53	1.87	1.62
Feels safe at school							
Disagree	2.04	1.99	1.97	1.62	1.48	1.81	1.56
Agree	2.78	2.72	2.67	2.19	2.01	2.54	2.47

† Not applicable.

NOTE: Estimates include the described condition if it was present at any of the observed school locations in question (i.e., hallways, classrooms, or bathrooms). See appendix C for specific survey items.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Facilities Checklist of the Education Longitudinal Study of 2002 (ELS:2002); Student Questionnaire of the Education Longitudinal Study of 2002 (ELS:2002).

This page is intentionally blank.

Appendix C
Education Longitudinal Study: 2002
Facilities Checklist Questionnaire

This page is intentionally blank.

EDUCATION LONGITUDINAL STUDY OF 2002



FACILITIES CHECKLIST

Sponsored by:
U.S. Department of Education
National Center for Education Statistics

Conducted by:
RTI

This checklist is to be completed by the ELS:2002 Survey Interviewer

SA Name: _____

SA ID: _____

GENERAL INSTRUCTIONS

PLEASE READ CAREFULLY AND USE A SOFT LEAD (#2) PENCIL TO COMPLETE THIS CHECKLIST.

FILLING IN CIRCLES:

It is important that you completely fill in the circles next to your answers and print clearly.

Shown below is the correct way to mark your answers, along with examples of incorrect ways.

Correct Mark:

Dark and thick, circle completely filled



Incorrect Marks:

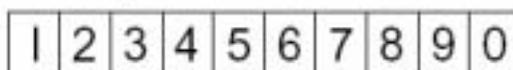
Light and thin



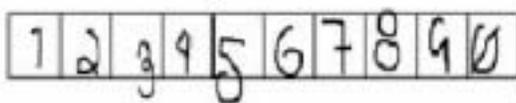
PRINTING NUMBERS IN BOXES:

Print one number per box. The numbers should be printed with solid connected lines and should not touch or cross any of the box lines. Do not cross zeroes or sevens.

Write digits like this:



Do not write digits like this:



1. Standing at the main entrance into the school, observe the school's front hallway(s) during a time when most students are in class (i.e., a class period). Take as much time as necessary to observe the hallway(s). For each item listed, indicate whether you observed it or not.

(MARK ONE RESPONSE ON EACH LINE)

- | | Yes,
observed | No,
did not observe |
|---|------------------|------------------------|
| a. Trash on the floors..... | O | O |
| b. Trash overflowing from trashcans | O | O |
| c. Broken lights..... | O | O |
| d. Graffiti on the walls/doors/ceilings..... | O | O |
| e. Graffiti on the lockers..... | O | O |
| f. Visible fire or emergency alarms..... | O | O |
| g. Chipped paint on the walls/doors/ceilings | O | O |
| h. Ceilings in disrepair (e.g., falling in, water damage, missing tiles or plaster) | O | O |
| i. Visible exit signs | O | O |
| j. Floors and walls appear clean..... | O | O |

2. Standing in the same place as in Question 1, during the same time, when students are in class, please rate the noise level of the school.

(MARK ONE RESPONSE)

- Noise level is about the sound of a whisper..... O
- Noise level is about the sound of a normal conversation..... O
- Noise level is about the sound of yelling..... O
- Noise level is about the sound of a busy street..... O

3. For each item listed, indicate whether you see this sign inside and outside the main entrance to the school.

(MARK ALL THAT APPLY ON EACH LINE)

- | | Yes,
observed
inside | Yes,
observed
outside | No,
did not
observe |
|--|----------------------------|-----------------------------|---------------------------|
| a. A sign providing directions to the front office or stating that visitors must proceed to the front office | O | O | O |
| b. A sign conveying the message "no drugs" | O | O | O |
| c. A sign conveying the message "no trespassing" | O | O | O |
| d. A sign conveying the message "no weapons" | O | O | O |

4. During a time when most students are in class (i.e., a class period), enter any student bathroom appropriate to your sex. For each item listed, indicate whether you observed it or not.

(MARK ONE RESPONSE ON EACH LINE)

- | | Yes,
observed | No,
did not observe |
|--|------------------|------------------------|
| a. Graffiti on walls and ceilings | O | O |
| b. Graffiti on bathroom stall doors or walls | O | O |
| c. Trash on the floors | O | O |
| d. Trash overflowing from trash cans | O | O |
| e. Doors on all stalls | O | O |
| f. Student(s) loitering..... | O | O |
| g. Student(s) smoking..... | O | O |

5. During a change in classes or other time when classrooms are not in session, enter one classroom in which high school students are taught. For each item listed, indicate whether you observed it in the classroom. If the room has no windows, mark "Not applicable" for items i, j, and k.

(MARK ONE RESPONSE ON EACH LINE)

- | | Yes,
observed | No,
did not observe | Not
applicable |
|---|------------------|------------------------|-------------------|
| a. Locks controlled from inside of door..... | O | O | |
| b. Ceiling in disrepair (e.g., falling in, water damage, missing tiles or plaster)..... | O | O | |
| c. Broken lights..... | O | O | |
| d. Graffiti on walls, ceilings, doors..... | O | O | |
| e. Graffiti on desks..... | O | O | |
| f. Trash on floors | O | O | |
| g. Trash overflowing from trash cans | O | O | |
| h. Floors and walls appear clean | O | O | |
| i. Posters or other materials on glass windows | O | O | O |
| j. Bars on windows..... | O | O | O |
| k. Broken windows | O | O | O |

6. Do a majority of the following individuals wear identification cards/badges?

(MARK ONE RESPONSE ON EACH LINE)

- | | Yes | No |
|--------------------------|-----------------------|-----------------------|
| a. Students..... | <input type="radio"/> | <input type="radio"/> |
| b. Teachers..... | <input type="radio"/> | <input type="radio"/> |
| c. Other Personnel | <input type="radio"/> | <input type="radio"/> |
| d. Visitors | <input type="radio"/> | <input type="radio"/> |

7. Does this school have one or more parking lots?

- Yes →(Go to question 8)
No..... →(Skip to question 9)

8. Now observing the school parking lot(s) entrances and exits, please answer each question below based on what you observe. *By "entrances/exits" we mean roadways into and/or out of parking lots that connect to roads off of school property.*

a. Count the number of entrances/exits in the school's parking lot(s) that connect to roads off of school property. How many are there?.....

b. Of these entrances/exits in the school's parking lot(s), how many are monitored by a video camera?.....

c. Of these entrances/exits, how many are monitored by a person during the day?

d. Of these entrances/exits, how many are locked during the day?

9. While you are standing outside of the school (near the entrance where most visitors arrive), look at the neighborhood/area surrounding the school. Please indicate to what degree you notice the following factors in the neighborhood/area surrounding this school.

(MARK ONE RESPONSE ON EACH LINE)

- | | None | A little | Some | A lot |
|--|------|----------|------|-------|
| a. Litter/trash..... | O | O | O | O |
| b. Graffiti | O | O | O | O |
| c. Boarded up buildings..... | O | O | O | O |
| d. Persons congregated on streets..... | O | O | O | O |
| e. Students loitering | O | O | O | O |

10. For each of the following security measures, indicate whether you observed it today.

(MARK ONE RESPONSE ON EACH LINE)

- | | Yes,
observed | No,
did not observe |
|---|------------------|------------------------|
| a. Security guard | O | O |
| b. Metal detectors | O | O |
| c. Security cameras | O | O |
| d. Fencing around the entire school..... | O | O |
| e. Sign-in policies..... | O | O |
| f. Visitors are greeted and directed by an adult to
sign in at office..... | O | O |
| g. Fire alarms..... | O | O |
| h. Fire extinguishers..... | O | O |
| i. Fire sprinklers | O | O |
| j. Exterior lights..... | O | O |
| k. Student lockers | O | O |
| l. Student uniforms..... | O | O |
| m. Signs at exterior doors stating alarm will go off
if door is opened | O | O |